A Program for Industry Action . . . p. 46

RAILWAY AGE

JAN. 7, 1957 • THE INDUSTRY'S NEWSWEEKLY

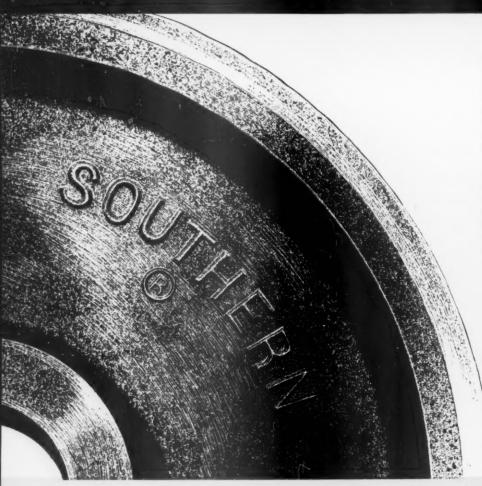
this announcement
appeared in
appeared in
appeared, 1955
August, 1955
2 more F3
2 modernised
units modernised
by Electro Motive for
Bangor & Aroostook

MODERNIZE and ECONOMIZE

Modernization of two of the Bangor & Aroostook's millionmile F3 units by Electro-Motive included remanufacture of the engines using "C" liners and water jumpers, plus new longer-life electrical controls. Result is locomotives with increased tractive effort that will haul more tonnage at lower cost than when they were first built.

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YES! Effective March 1, 1957, the Southern® cast steel wheel is A.A.R. approved for full interchange service! The 1957 rules of interchange, issued January 1, are modified to cover this A.A.R. acceptance. A new A.A.R. specification, M-208-56, covers purchasing and inspection procedures.

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Something New in Piggyback

Shown here is a new semi-automatic hold-down device for securing highway trailers to flat cars in piggyback service. Developed by American Car and Foundry Division of ACF Industries in cooperation with the Pennsylvania Railroad and Rail-Trailer Company, this retractable trailer hitch moves up to brace the trailer in place, folds down flat to give clearance during loading.

ACF uses high-strength Mayari R plates to build this hitch, which is substantially stronger under impact than earlier types of braces. One man with a power tool can now secure a trailer in $2\frac{1}{2}$ minutes, instead of the usual three-man crew requiring 5 minutes.

Because Mayari R has a higher yield point than car-

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Catalog 353 contains detailed technical information about Mayari R, along with many interesting photographs and case histories covering a wide variety of applications. A copy will be sent you promptly upon request.

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On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation

Mayari R...High-Strength, Corrosion-Resisting Steel

Have you investigated the possibilities of

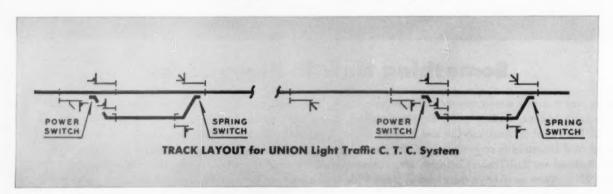
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RAILWAY AGE The Industry's Newsweekly

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PAID CIRCULATION THIS ISSUE14,437

Vol. 142, No. 1 January 7, 1957

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Week at a Glance

Hook-up of bus and airline express service p.9
has been established by Greyhound in conjunction with 16

airlines and two air freight forwarders. Some 6,000 communities now without air freight service are included in nationwide plan.

Tax-equalization proposals for income accounts . . p.10

have been rejected again by the ICC. Affirming its prior refusal, the commission action was prompted largely by "practical" considerations.

Pressure maintaining speeds freight movement . . p.22

over sections of the Western Maryland. The valve used for this purpose, along with the dynamic brake on severe grades, is eliminating use of retainers, and reduces lading and equipment damage.

Corrosion-resistant alloys are but one phase . . . p.25

of International Nickel's research activities, which employ about 750 people and hit the budget for \$7 million a year. This is No. 3 of the Railway Age series—"Contributions to Railway Research."

Transferring coal from rail to boat p.28

at the phenomenal rate of 4,000 tons an hour has been made possible by a new Chicago facility. Key to the operation's speed is its new, up-to-date loading equipment.

Average tonnages have been increased 17% . . . p.32

since the Reading began chemically treating the rails on a 35-mile grade on its Catawissa branch. Another not unimportant gain has been an estimated net saving of 25 to 40 cents per train-mile.

Should your son go railroading? p.34

An emphatic YES is the answer of Perry M. Shoemaker,

AIR CONDITIONING SYSTEMS by LEAD THE FIELD IN PERFORMANCE.

The efficient, dependable performance of an Air Conditioning System depends on its motors and related controls for continuity of service . . .

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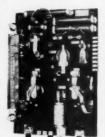
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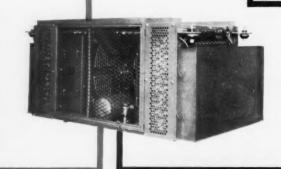
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RAILWAY AGE The Industry's Newsweekly

Current Statistics

Operating revenues, ten months	
1956	\$8,792,282,647
1955	8,374,496,681
Operating expenses, ten months	
1956	\$6,731,852,843
1955	6,290,275,280
Taxes, ten months	
1956	\$954,357,508
1955	923,822,927
Net railway operating income,	ten months
1956	\$394,770,856
1955	947,187,510
Net income, estimated, ten mont	hs
1956	\$711,000,000
1955	749,000,000
Average price 20 railroad stocks	
December 31, 1956	95.76
January 3, 1956	97.63
Carloadings revenue freight	,,,,,,
Fifty-one weeks, 1956	37,354,423
Fifty-one weeks, 1955	37,065,619
Average daily freight car surplu	
Wk. ended Dec. 22, 1956	5.903
Wk. ended Dec. 24, 1955	4.507
Average daily freight car shorta	.,
Wk. ended Dec. 22, 1956	3.077
Wk. ended Dec. 24, 1955	4,807
Freight cars on order	4,007
December 1, 1956	119,626
December 1, 1955	109,370
Freight cars delivered	107,370
Eleven months, 1956	60.258
Eleven months, 1955	33,100
Average number railroad emplo	
Mid-November 1956	1,027,799
Mid-November 1955	1,077,979
mid-1404ember 1733	1,0//,7/9

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Week at a Glance CONTINUED

president of the Lackawanna. An authentic letter from Mr. Shoemaker to his son tells why he believes there is a bright future for the industry and for alert young men who make railroading their career.

The Action Page (Forum) p.46

Changing the caption of this department is based on the idea that the general principles which should govern successful railroad policy are pretty well understood and agreed to. The department hereafter will be mainly devoted to translating those principles into terms of concrete action.

SHORT AND SIGNIFICANT

The per diem rate . . .

which railroads pay for the rental of freight cars from each other, went up from \$2.40 to \$2.75 on January 1. The increase, recommended by the General Committee of the Operating-Transportation Division, AAR, was approved by carowning railroads.

Cars more than 25 years old . . .

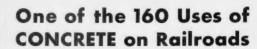
comprised 38% of the freight-car fleet and 70% of the passenger-car fleet at the beginning of last year. This is reported by the ICC's Bureau of Transport Economics and Statistics, which also notes that only one-third of the freight cars and less than one-sixth of the passenger cars were in 10-years-orless age groups.

A strike by locomotive firemen halted the CPR . . .

forcing complete suspension of all operations last week. Delaware & Hudson and New York Central trains into Montreal were rerouted to the Canadian National's Central Station, which also was utilized for Montreal-Ottawa pool service. The Canadian Pacific sought to eliminate firemen from road freight and yard diesels but the BLF&E rejected a conciliation board endorsement of the proposal.

Freight-car production in 1957 . . .

should be maintained at a level "above 6,000 cars per month, provided there is no difficulty in steel procurement." That prediction was included in the Department of Commerce's survey of business prospects for the new year.



NO. 35 OF A SERIES

Concrete loading ramps for piggy-back freight such as this one in the Shreveport, La. yards of the Kansas City Southern R.R. are long-lasting structures that require little maintenance yet help create business and revenue year after year.

Concrete loading ramps are just one of more than 160 uses of portland cement and concrete which enable American railroads to improve service and save time and money. The moderate first cost of such concrete improvements—plus their long life and low maintenance cost—result in *low annual cost*. This saves money for other necessary budget items.

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A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work



Greyhound Links Air-Bus Express

Airline-originated traffic to be extended to bus-to-plane service in two months -Will reach 6,000 communities-Eventual passenger tie-up seen possible

A new type express package business was established on January 1 when Greyhound Corporation announced inauguration of a joint airbus service to some 6,000 communities which do not now have direct air freight facilities.

"The plan will provide, for the first time, the advantages of frequent, regular, and rapid service to thousands of smaller communities throughout the United States, whose only, if not major, connection with outside communities is via bus," said L. H. Ristow, Greyhound's traffic vice president.

"Shippers and receivers in these many communities will be able to use Greyhound bus service to ship items to the nearest airport city, where packages will be flown to any part of the country and then, in turn, delivered by Greyhound or an air carrier.

"Service will begin with shipments originated by an air carrier, flown to an airport city and then carried beyond by Greyhound to communities which have no air freight service. Within 60 days, however, it will also be possible for shippers to take items to any Greyhound terminal or agency, have them transferred to an air carrier, then flown to the airport nearest destination for delivery direct," Mr. Ristow said.

Service will include prepaid, collect, and COD. Rates will be a combination of air carrier and Greyhound

package express rates. The company announced that package size will be limited to a maximum of 24 x 24 x 25 inches with a limit of 100 lbs per

The new service follows closely the expansion of Greyhound's package express operation. Latest expansion in that service was in November, when the carrier inaugurated collect and COD services coast-to-coast. President Arthur S. Genet disclosed that package express by Greyhound by the end of the year had shown a sales gain of 15.6% over a similar period in 1955. Revenues for the service during 1955 totaled almost \$91/2 million. Mr. Genet forecast that within five years revenues would amount to \$30 million annually from the package express service.

"Addition of the air and bus package shipment," he noted, "will, of course, increase this materially. It is expected that many coast-to-coast or long distance shipments will now be made for almost every part of the country and will now have the advantages of quick air and bus service."

Mr. Genet also said that 80 per cent of the packages shipped over Greyhound currently weighed under 30 lbs and went an average of 150 miles

Airlines joining in the new air-bus venture are Allegheny Airlines, Inc., American Airlines, Inc., Bonanza Air Lines, Inc., Capital Airlines, Inc., Continental Air Lines, Inc., Eastern Air Lines, Inc., The Flying Tiger Line, Inc., National Airlines, Inc., Northwest Airlines, Inc., Piedmont Aviation, Inc., Riddle Airlines, Inc., Slick Airways, Inc., Trans-Texas Airways, Trans World Airlines, Inc., United Air Lines, Inc., and Western Air Lines, Inc.

The two air freight forwarders are The Emery Air Freight Corp., and Wings & Wheels, Inc.

The Greyhound announcement provoked speculation in some quarters that the air-bus express hookup might be the precursor of a similar linkage of passenger services.

The bus company already serves as agent in the United States for Cubana Airlines and participates in tour arrangements made by air and steamship lines which sell tourist "packages" for Europeans who travel in America.

Hower, Greyhound sells no jointtravel tickets at present. One officer of the company, stating he knows of no plans to develop such an arrangement now, admitted that the express service might open the way for a system which would have long-distance travelers fly between major cities, completing their journeys to or from airport-less communities by bus—all on one ticket.

Tax-Equalization Proposal Rejected Again

ICC action affirms its previous refusal to prescribe new railroad income account to provide for equalization of income taxes over service life of facilities written off in five years under quick amortization

The Interstate Commerce Commission has affirmed its previous refusal to prescribe a new railroad income account to provide for equalization of income taxes over the service life of facilities written off in five years under accelerated-amortization arrangements.

The refusal was announced in a commission report on reconsideration of the decision of December 21, 1951,

which stipulated that carriers could include in operating expenses only "normal" depreciation charges on property covered by accelerated amortization certificates. That ruling applied to reports made to the commission, and, of course, did not end accelerated-amortization accounting for income-tax purposes.

Commission reconsideration of the

matter resulted from a petition filed August 17, 1955, by Arthur Andersen & Co., a public accounting firm, which urged the equalization plan. Andersen contended that if the factors of lesser taxes during the amortization period and possible greater taxes thereafter are ignored, the net income does not reflect a true picture.

The proposal was a revival of one made by four railroads and rejected by the commission in its previous decision. The four roads were the Chesapeake & Ohio, the Chicago & North Western, the Chicago, St. Paul, Minneapolis & Omaha, and the Seaboard Air Line.

On the record made after the reopening, the proposal was opposed by the Association of American Railroads and 23 Class I roads. Only one road, the Minneapolis & St. Louis, supported it, although it also won support from the Committee on Accounting Procedure of the American Institute of Accountants.

Practical Approach—The commission's refusal to change the deck was based to a considerable extent on practical considerations. It conceded that, if it could have foreseen the extent of the fast-amortization program, "it might have been prudent to require some provision for the contingency for future higher taxes in the post-amortization period."

Figures in the report indicated that 29.4% of 1954's reported net income of 14 large roads resulted from tax savings or deferrals because of fastamortization deductions. The cumulative total of tax deferrals for the 1950-1955 period was put at \$593 million, and it was estimated the total would exceed \$1 billion when all returns were in. The accelerated-amortization program has been closed, as



Alco Gives Steam Pictures to Historical Society

A large collection of photographs of Alco-built steam locomotives has been presented to the Railway and Locomotive Historical Society by Alco Products. George P. Becker (right), treasurer of the society, and Dana T. Hughes, Alco director of public rela-

tions, hold up one of the photographs, all of which will be preserved in the society's collection of steam locomotive memorabilia. Many of the steampowered units manufactured by Alco or its predecessors since 1837 are represented in the photographs.

to railroad facilities, for some time, and the commission said there is "no prospect" that it will be reopened in the foreseeable future.

As to the possible burden of the tax deferrals on shippers, the commission said it would "range from \$50 to \$75 million annually over about 20 years." At the same time it emphasized that the actual "burden" would be affected by many factors; and "it is not inconceivable that a large portion of the deferral may be absorbed by the carriers over the long post-amortization period."

Report Forms-As to the Andersen contention that investors and stockholders are misled by present financial reports, the commission cited the AAR's answer that "those directly concerned" are well aware of the situation. It also noted that it revised the railroad report form in 1955 to require inclusion of an analysis of federal income taxes. The commission then added: "However, we will give consideration to amending our annual report form for all carriers to reflect information regarding tax deferrals directly in the income and balance sheet schedules."

The commission's report was accompanied by brief concurring expressions from Commissioners Arpaia and Freas. The former saw "some merit" in the Andersen proposal "from the standpoint of conservative accounting procedure," but he also saw "practical considerations which transcend matters of accounting theory."

Commissioner Freas said he would have approved the equalization plan if he had been a member of the commission when the 1951 decision, which rejected it, was made. Since that time, Mr. Freas thinks, the present practice has become so well established that "substantial inequities would follow a retroactive change." His disposition to go along with the majority was also influenced materially by the fact that the amortization program is now closed.

TOFC Steel Moves Pose New Load Shift Problem

Flatbed trailers used in hauling steel products in piggyback service are presenting a load-shift problem.

The AAR points out in a current letter to member roads that reports indicate the need for an end gate, or a permanent or removable end bulkhead, "to prevent endwise shifting of lading" on the flatbeds.

The subject was discussed at the December meeting of the Committee on Car Construction.



New Retirement Board Chairman Sworn In

Howard W. Habermeyer (fourth from left), recently appointed Railroad Retirement Board chairman (Railway Age, Dec. 3, 1956, p. 70), at recent swearing-in ceremonies in Chicago. Left to right are G. D. Finney, assistant general solicitor, Association of American Railroads; J. E. Monroe,

vice-president, Bureau of Railway Economics, AAR; A. R. Seder, vice-president of finance, accounting, taxation and valuation, AAR; Mr. Habermeyer; P. A. Hollar, vice-president and assistant to president, AAR; R. L. Ettenger, assistant to vice-president of finance, accounting, taxation and valuation.

Capital Outlays Topped \$11/4 Billion

Latest reports to the Interstate Commerce Commission indicate that last year's gross capital expenditures of Class I line-haul railroads will exceed \$1½ billion.

The reports also indicate that expenditures for 1957's first quarter will total more than \$364 million, up

22.3% from outlays made in the first three months of 1956.

The 1956 total was built up on the basis of actual expenditures reported for the first nine months and fourth-quarter estimates submitted by all but five of the reporting roads. The total was \$1,238 million, but the five roads

Actual and Estimated Gross Capital Expenditures Class I Line-Haul Railways

Period	Number of roads	Expenditures for road Thousands	Expenditures for equipment Thousands	Total Thousands
Actual: January—September 1955 October—December 1955 Total 1955 Total 1955 adjusted ¹ January—September 1956	126 126 126 121 113	\$212,366 127,743 340,109 336,924 284,470	\$384,683 183,651 568,334 557,054 615,703	\$597,049 311,394 908,443 893,978 900,173
Estimated: October-December 19562	108	118,437	219,384	337,821
Actual and estimated: Total year 1956		402,907	835,087	1,237,994
First quarter 1956	113	73,463	224,252	297,715
Estimated: First quarter 19578 Per cent of change:	108	77,793	286,178	363,971
January—September 1956 vs. same period in 1955 (actual)		34.0	60.1	50.8
Year 1956 (actual and estimated) vs. 1955 adjusted		19.6	49,9	38.5
First quarter 1957 (estimated) over same		5.9	27.6	22.3

 1 Total figures adjusted to eliminate 4th quarter 1955 expenditures of 5 roads which did not furnish estimates for 4th quarter of 1956.

²Estimates for the 4th quarter of 1956 were not furnished by 5 roads. In the same quarter of 1955 these carriers made expenditures of \$3.2 million for road and \$11.3 million for equipment.

3 Estimates for the 1st quarter of 1957 were not furnished by 5 roads. In the same quarter of 1956 these carriers made expenditures of \$2.6 million for road and \$4.8 million for equipment.

Note: Effective January 1, 1956, Class I railroads are those with annual gross operating revenues of \$3,000,000 or more; prior to that date this class included carriers with revenues above \$1,000,000. Comparisons of the 1956 figures with those of 1955 are not materially affected, however, since gross capital expenditures of the carriers which changed class amounted to only 0.1% of the total in 1955.

which supplied no fourth-quarter estimates made expenditures totaling \$14.5 million in 1955's fourth quarter.

The figures were presented by the

commission's Bureau of Transport Economics and Statistics in its "Transport Economics." The compilation is set out in the foregoing table.

NYC Starts Two New Electronic Yards

Electronic freight yards at Elkhart, Ind., and Youngstown, O., will take their places with another being built at Buffalo, N.Y., in a system-wide modernization of major New York Central freight-car classification centers.

The two new yards, to cost the Central a total of \$21,000,000, should be ready early in 1958. They are designed to reduce significantly the time spent classifying cars at those two points.

The yards at Elkhart, Youngstown and Buffalo fit into a program of yard improvement which will include terminals at still other points in the future, according to the Central's plans (Railway Age, Apr. 9, 1956, p. 30).

Construction has begun at Elkhart and will start soon at Youngstown. As part of the Elkhart project, Michigan Central freight trains which now move through Kalamazoo, Mich., and VELECTIONIC Yards

Niles, will be routed through the Elkhart yard. A yard at Niles will be

largely discontinued.

Both new yards will have humps and radar-controlled car retarders. They will have the usual communications devices: talk-back speakers, paging systems, pneumatic tubes, radio and telephones. Incoming trains will be scanned by television cameras; yard clerks will list incoming car numbers with tape recorders.

The \$7,000,000 Youngstown yard will serve both the NYC and the Pittsburgh & Lake Erie, a Central affiliate. It will replace five yards now in use with a modern layout of about 10,000-car capacity. The new yard will cover about 208 acres and will utilize 72 miles of track.

The Elkhart yard will be connected with the Michigan Central at Jackson, Mich., over secondary routes upgraded to main-line standards and equipped with centralized traffic con-

trol. The present MC route through Kalamazoo and Niles will be retained for passenger trains and local freights. Plans are to single-track this line and install CTC.

The \$14,000,000 yard at Elkhart will replace eight yards now in use with one of about 8,000-car capacity. Total yard track mileage will be reduced from 270 to 108. Plans are to use the Elkhart yard largely to classify westbound cars for deliveries at Chicago, augmenting the Central's present Chicago terminals.

ICC Won't Require Filing Of Section 22 Quotations

The Interstate Commerce Commission has determined that it has authority to require the filing of section 22 quotations, but has decided not to exercise such authority at this time.

The section on 22 quotations involved are special rates accorded government agencies under section 22 of the Interstate Commerce Act. They are not now published rates.

The commission's report came out of its Ex Parte No. 192 investigation of the matter which was instituted in March 1954. The decision not to exercise the power it claimed was due to its conviction that "the appropriate remedy for the ills which have developed under section 22 is the amendment thereof by the Congress."

A bill to eliminate government agencies from section 22's list of those eligible to receive rate concessions failed of enactment at the latest session of Congress, the commission noted. It went on to say it would be inappropriate to prescribe filing rules while the matter was receiving Congressional attention. The report added, however, that "the matter will be left open for further consideration if subsequent events warrant such action."

This majority decision to "refrain from positive action" because "section 22 may be amended," drew a dissenting expression from Commissioner Clarke, with whom Commissioners Arpaia and Walrath agreed, "Whether the next Congress will consider such an amendment and the extent and result of such consideration are conjectural, and not sufficient justification for failure to act in the instant proceeding," Mr. Clarke said.

He went on to refer to the commission's duty to keep Congress informed, and to suggest that a filing rule would bring in information "of great assistance in evaluating the effect of section 22 rates upon the carriers' financial condition and upon the rates paid by other shippers."





UP's 'Aerotrain' Has Diner and a Lounge

The Union Pacific is serving free meals to passengers aboard its "Aerotrain." It isn't using, however, the airline style individual service planned for by the train's designers. Passengers eat in what the UP calls "western chuck-wagon style" in a cafeteria-style diner (left above). They pick up their plates at a counter on one side of the car and eat at a stand-up counter on the other. Selections include fruit juices, rolls and coffee for breakfast; salads and cold cuts for lunch; a hot entree and other items for dinner. The food is free and there's no limit on "seconds." Food-serving equipment

was installed in a coach by the railroad. Another coach has been modified to include a serving counter, refrigerator and storage locker (right). Attendants serve drinks to passengers at their seats. Coaches in the two experimental "Aerotrains" built by General Motors were equipped with small galleys or snack bars so passengers could be served at their seats. The UP has leased the "Aerotrain," which it calls the "City of Las Vegas," until June. The train leaves Los Angeles each morning for Las Vegas and returns in the evening (Railway Age, Nov. 26, p. 11).

MARKET OUTLOOK THIS WEEK

Freight Car Loadings

Loadings of revenue freight for the week ended December 29, 1956, were not available when this issue of Railway Age went to press.

Loadings of revenue freight for the week ended December 22 totaled 698,389 cars; the summary, compiled by the Car Service Division of the Association of American Railroads, follows:

REVENUE FREIGHT CAR LOADINGS

For the week e	nded Satur	day, Decer	nber 22
District	1956	1955	15.54
Eastern	117,939	112,127	96,030
Alleghany	136,643	134,024	104,782
Pocahontas	65,437	55,515	40,147
Southern	125,543	129,448	103,389
Northwestern	78,885	72,458	65,734
Central Western	122,157	110,084	100,514
Southwestern	51,785	53,823	50,599
Total Western			
Districts	252,827	236,365	216,847
Total All Roads	698,389	667,479	561,195
Commodities:			
Grain and grain			
products	51,492	43,017	41,284
Livestock	5,827	6,962	5,925
Coal	153,432	144,583	110,376
Coke	12,925	13,802	8,746
Forest Products .	41,565	43,199	37,555
Ore	25,791	18,051	13,231
Merchandise I.c.I.	53,583	56,280	55,378
Miscellaneous	353,774	340,785	288,700
December 22	598,389	667,479	561,195
December 15	716,652	709,132	641,879
December 8	737,757	721,518	653,531
December 1	752,150	723,786	661,777
November 24	650,920	671,950	583,520

Cumulative total, 51 weeks ...37,354,423 37,065,619 33,385,567

IN CANADA.—Carloadings for the seven-day period ended December 7 totaled 79,479 cars, compared with 109,623 cars for the previous nine-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
December 7, 1956	79,479	35,077
December 7, 1955	78,790	33,634
Cumulative Totals:		
December 7, 1956	4,173,823	1,633,710
December 7, 1955	3,833,416	1,537,787

New Equipment

FREIGHT-TRAIN CARS

- ➤ Chicago & Eastern Illinois.—Will purchase five cabooses for delivery in second quarter 1957; cost \$88,000.
- ▶ Denver & Rio Grande Western.—Ordered 200 70-ton covered hopper cars, Bethlehem Steel, for delivery in third quarter 1957, and 50 70-ton triple hopper cars, ACF Industries, for delivery in fourth quarter 1957.
- ► Maine Central.—Ordered 200 50-ton box cars, ACF Industries; cost \$1,600,000; delivery scheduled to begin late next summer.
- ▶ New York City Transit Authority.—Capital budget request for 1957 will seek funds to continue replacement of overage subway cars, says authority's recently released annual report for year ended last June 30.
- ► Norfolk & Western.—Ordered 2,000 70-ton hopper cars from its Roanoke, Va., shops for delivery late in 1957.
 - ► Santa Fe.—Ordered 400 flat cars from its Topeka, Kan., shops.
- ➤ St. Louis Southwestern.—Will construct 50 70-ton pulpwood cars in its Pine Bluff, Ark., shops during September and October 1957; estimated cost \$570,800.

LOCOMOTIVES

► Argentina.—Purchased 15 diesel-electric locomotives from General Electric at cost exceeding \$1,000,000; units will provide link between Buenos Aires docks and freight terminals of Argentine State Railways; shipment will begin next fall.

SPECIAL

► St. Louis Car Co.—Ordered about \$7,800,000 worth of electric drive equipment from General Electric for installation on 225 subway cars being built for New York City Transit Authority; order calls for package of four traction motors with gear drive units, a set of control equipment, and a motor generator set for each car; cars are part of 450 ordered from St. Louis Car by the authority at approximate cost of \$48 million, with delivery scheduled to begin early next summer.

New Facilities

- ▶ Detroit, Toledo & Ironton.—Will replace lift portion of Short Cut Canal bridge in Detroit area; cost \$239,000; new high-tensile steel span will have sufficient strength to carry hot metal bottle cars without use of idler cars between loads.
- Louisville & Nashville.—Roadway improvement plans for 1957 include extension of CTC at cost of \$1.7 million; 40,000 tons of 132-lb rail will be laid as part of regular track maintenance program.

0

Passenger Fares Increased by ICC

Increased passenger fares in eastern and western territories and higher charges for Pullman space on a country-wide basis were authorized by the Interstate Commerce Commission last week.

The western-territory increase of 5% in coach and first-class fares, and the increase in Pullman charges, which amounts to 7%, became effective January 1, when the commission failed to suspend tariffs filed last month with that effective date. The eastern-territory case involved the petition of eight railroads, and they were authorized to publish 5% increases in coach and first-class fares on five-days notice.

New Eastern Plea-They planned to make the effective date January 9. Meanwhile, the commission got the petition of 17 other eastern lines for authority to make like increases effective on the same date. Favorable action on that petition would raise fares throughout eastern territory,

except New England. The 5% increase in coach fares is

what was sought by the eight original petitioners in the eastern case, but six of them, including the New York Central and Pennsylvania, are also

seeking a 45% increase in first-class fares for travel in parlor and sleeping cars. Proceedings in the case had reached the proposed-report stage when the commission authorized the 5% increases in an interim report dated December 31, 1956. The 45% proposal remains pending.

The proposed report, by Examiner Oren G. Barber, recommended that the proposed increase of 5% in coach fares be approved, and that a 15% increase in first-class fares be authorized (Railway Age, Dec. 24, 1956, p. 7). Petitioners, in addition to NYC and PRR, are the Chesapeake & Ohio, Lehigh Valley, Norfolk & Western, Pennsylvania-Reading Seashore, Pittsburgh & Lake Erie, and Reading. The LV and Reading did not join in that phase of the petition which seeks a 45% increase in first-class fares.

The commission first announced that there would be no proposed report in the case, and then changed its mind. About the time the proposed report was issued, the petitioners filed a plea for immediate relief in the form of a 5% coach-fare increase and a like rise in first-class fares, pending disposition of the 45% proposal. The present report granted that petition.

Separate expressions came from Commissioner Freas, concurring in part, and Commissioner Mitchell, dissenting. The former concurred in the result of the majority decision, but objected to its issuance before exceptions to the proposed report had been considered. Mr. Freas said he had opposed the proposed-report procedure because of the time factor, but he thought the commission should not have changed the deck again during the period allowed interested parties to file exceptions. Commissioners Winchell and Murphy subscribed to the Freas opinion.

Commissioner Mitchell also objected to issuance of the decision before exceptions to the proposed report were received. The commission's action, he said, "deprives the protestants

of their right to protest."

Mr. Mitchell went on to refer to dining-car losses as the "main" coachservice deficit suffered by the eight roads. It seems to him that "efficient operation would have eliminated the dining car deficit." He also has "serious doubt" as to whether the formula used in arriving at the deficit is a correct one.

The dissent of Commissioner Mc-Pherson was noted. Commissioner Arpaia did not participate.

The new eastern petitioners include Ann Arbor, Baltimore & Ohio, Bessemer & Lake Erie, Central of New Jersey, Chicago, South Shore & South Bend, Delaware & Hudson, Delaware, Lackawanna & Western. Detroit & Mackinac, Erie, Grand Trunk Western, Mackinac Transportation Company, Monon, New Jersey & New York, New York & Long Branch, Nickel Plate, Virginian, and Wabash.

The petition said that passengerservice deficits of petitioners totaled \$67.3 million in 1955.

Trainmen Board Will Begin Hearing at Chicago Jan. 22

The emergency board appointed by President Eisenhower to investigate the wage dispute involving demands of the Brotherhood of Railroad Trainmen will begin hearings at Chicago January 22.

That was agreed upon by the parties in a stipulation entered when they joined in seeking appointment of the emergency board. The board was created by a Presidential order dated December 22, 1956.

The members are: Nathan Cayton, who retired in 1955 as chief judge of the District of Columbia Court of Appeals, Francis J. Robertson and A. Langley Coffey, professional arbitrators of Washington, D.C., and Tulsa, Okla., respectively.

(Continued on following page)



Chicago Landmark Glows with Huge B&O Display

Chicago's Grand Central Station, famous before the turn of the century as the setting for an 11,000-lb bell and one of the largest clocks in the nation, now sports the largest billboard in Chicago. The B&O billboard is 143 ft long and makes a colorful blaze

over the city skyline with 6-ft blue neon letters. Advertising will be changed periodically to keep pace with new services offered by the railroad. At left, the 67-year-old bell tower shows its new 10-ft white fluorescent "B&O" letters.

Technical Tidings

Selected from January Railway Monthlies

Advantages of plywood construction in freight cars are set forth in Railway Locomotives & Cars. The article, "Modern Cars Use Plywood," tells how to make the most of the advantages.

Railway purchases of maintenance of way work equipment went up sharply in 1956. They bought a total of 8,300 such units at a cost of \$30.1 million. The number of units purchased was up 17%, but the dollar value soared 76% to a new all-time high. These and other facts regarding work equipment purchases last year, and a forecast for 1957, are in an article in Railway Track & Structures.

Although a 30-min fire raged near signal cables, damage was to outer coverings only, so that no trains were delayed on the Independent division of the New York City subways. Details are set forth in Railway Signaling & Communications.

The Rock Island's 70-ft baggage express cars were designed and built for a quick write-off and adaptability to any changes in the passenger situation. A Railway Locomotive & Cars article, "New Approach to Head End Problems," presents all the facts.

As a result of experiments in 1956, the Western Pacific has perfected the organization and equipment for a highly mechanized tie-renewal gang of only about 20 men. All WP tie renewals will be done mechanically on a three-year cycle when the road is able to carry out its plans to organize two additional gangs. The experimental gang is described in detail in Railway Track & Structures.

An "on-the-job" safety meeting, as staged by a Pennslyvania track gang before the Railroad Section of the National Safety Council, is reproduced in Railway Track & Structures. Script for the meeting was prepared by PRR safety and maintenance of way officers to illustrate the correct procedure and attitude on the part of the foreman.

"Electrification Will Come Back" according to an article in Railway Locomotives & Cars. The time depends primarily upon fuel prices and diesel locomotive maintenance costs.

(Continued from preceding page)

The dispute reached the emergencyboard stage when the BRT rejected arbitration which had been accepted by the carriers. The main obstacle to settlement of the case has been the BRT demand for seven paid holidays a year.

1st Quarter Loadings Seen Up 3.7%

An increase of 3.7% in the number of cars loaded with revenue freight in the first quarter of 1957, compared with the same period in 1956, has been estimated by the 13 regional Shippers Advisory Boards.

On the basis of the estimate, loadings of the 32 principal commodities will be 7,045,344 cars in the first quarter, compared with 6,795,863 actual carloadings in the corresponding quarter of 1956 for the commodities listed.

Each of the 13 boards, except New

England and Northwest, estimated an increase in the first quarter compared with totals for the same period in 1956.

The boards expect an increase in the first quarter, compared with the same period in 1956, in the loadings of 22, and a decrease in 10, of the commodities listed.

The tabulation shows actual loadings for each district in the first quarter of 1956, estimated loadings for the first quarter of 1957, and percentage of change:

Shippers Advisory Board	Actual Loadings First Quarter, 1956	Estimated Loadings First Quarter, 1957	Per Cent Increase
New England	132,975	130,697	1.7 dec.
Atlantic States	723.351	758,403	4.8
Allegheny	900,347	922,372	2.4
Ohio Valley	972.300	1.057.760	8.8
Southeast	942.479	957.308	1.6
Great Lakes	442.259	463.175	4.7
Central Western	237.937	247.854	4.2
Mid-West	801.405	830.729	3.7
Northwest	238 754	237.948	0.3 dec.
Trans-Missouri-Kansas	319,132	328.138	2.8
Southwest	492 020	505.407	2.7
Pacific Coast	358 709	370.561	3.3
Pacific Northwest	234 105	234 992	0.3
rucitic Northwest	234,173	234,772	
Total	6,795,863	7,045,344	3.7



Pittsburgh's Third Annual 'Scout Railroad Day'

Howard Pike (left above), assistant to the president of the Pittsburgh & Lake Erie, and Warren C. Powers, assistant executive of the Allegheny Council, Boy Scouts of America, working out plans for Pittsburgh's third annual "Scout Railroad Day," which will be observed January 26. Under auspices of the Community Relations Committee of the Pittsburgh Railroads, the P&LE, the Pennsylvania and the Baltimore & Ohio will each run a 60-mile, \$1-fare roundtrip excursion for scouts to celebrate the day.



no need to be "up-in-the-air" about batteries.

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GOULD KATHANODE
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for Air Conditioning
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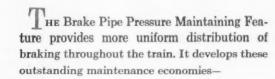
Sounds sensible, doesn't it? Try us and see. Gould-National Batteries, Inc., Trenton 7, N. J.

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DS-24-M Brake Valve

develops outstanding maintenance economies



- Less rigging maintenance and fewer damaged brake heads.
- 2. More uniform brake shoe wear.
- 3. Reduced wheel damage from overheating at front end of train.

These economies can be realized on 24-RL Brake Valves now in service by substituting a Conversion Filling Piece for the existing filling piece.

Write for our Circular Notice No. 1130 which gives complete details.

Westinghouse Air Brake

AIR BRAKE DIVISION WILMERDING, PENNA.



Questions and Answers

Of current interest

to the Transportation Department

Has the idea of the coffee break hit the railroads? If so, what have been its effects on productivity and morale . . .

Yes—and the effect has been good.

As many readers probably know, the idea of the coffee break has caught on widely in American business. I really have only one answer at this time, concerning railroads going along with the trend. That answer came to me through some reading I was doing in the proceedings of the Freight Station Section, Association of American Railroads, 1956 meeting. Leo L. Thompson, general agent of the Grand Trunk at Detroit, reported on this subject at the meeting. Not only did he present a paper on the subject, but he talked on it from the floor.

In his paper, Mr. Thompson noted that a recent survey of 1,160 firms in 45 states revealed that 80% of the companies polled had formalized coffee breaks. And to quote from Mr. Thompson's paper: 82% of the companies noted reduction in worker fatigue; 75%, improved employee morale; 63%, increased worker productivity; and 32%, a reduction in rate of errors. Average length of the break ranges 10 to 15 minutes. About 78% of the companies involved in the studies had instituted the time-out sessions themselves, while 22% reported that the breaks were required by contracts with unions.

Mr. Thompson noted that in days gone by "sneaking out" for a cup of coffee had been forbidden. Today, he said, "the boss frequently uses the coffee break period as a chance to get you or me as an employee to talk on some subject dear to his heart."

Mr. Thompson said that when he went to Detroit as agent he had 70 clerks in the freight office. Many of them were sneaking out for coffee. He sat down with two of his senior clerks, a woman and a man, and organized a definite break. A week later all the employees were told that the coffee break was coming. "They were very elated. They told me at the time, through their spokesman, that the management would not lose from

"It has been in force a year and a half and I guarantee you, you could

come to my office and you would agree it is working."

The employees in this case took up a collection with which to purchase the restaurant equipment necessary to make the program go. (It was not so stated in the Proceedings, but I assume, perhaps incorrectly, that the company furnishes the "java.") Mr. Thompson noted that about 50% of the employees take their coffee at their desks and continue working. Prior to the coffee break, he said, many people were visiting the wash rooms for up to 15 minutes. He also mentioned that in his road's downtown main office building clerks were being given 15 minutes in the morning and the same amount of time in the afternoon, for coffee. "Now, the clerks rose to the trust that we put in them and are treating the management very well."

Another speaker expressed the view that coffee breaks are "absolutely a necessity." This speaker, H. A. Franson, Soo Line Agent at Waukesha, Wis., noted that at the line's general offices in Minneapolis, "our coffee is in the building-and we save a lot of time."

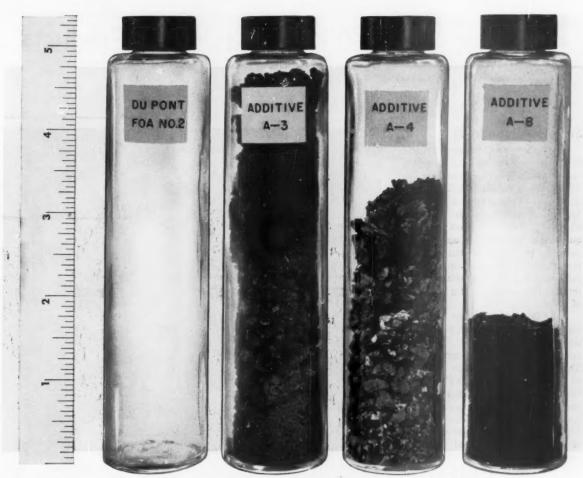
Other speakers emphasized that the employees were taking the break whether it was authorized or not. Therefore, said one man, why not control it. Another speaker emphasized that if the people were not given a break that it would not be too long before the carriers would find the break written into labor contracts.

I don't kown how many roads are giving folks coffee breaks but I'd be interested to find out.

Incidentally, not so long ago I was talking with a man who has done a little work in trying to figure out the timing of the coffee break. Unfortunately, my memory is rather hazy as to all the details of his survey. I'm going to contact him and try to learn a little more about the study. I'll try to have a report for you shortly.

In the meantime, watch for the car service quiz I promised you. -G.C.R.

CONDUCTED by G. C. RANDALL district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly issues of this paper, and is devoted to authoritative answers to questions on transporta-tion department matters. Questions on ects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, Railway Age, 30 Church Street, New York 7.



THESE BOTTLES CONTAIN the amount of ash left from burning four different diesel fuel additives—in cost-equivalent amounts that would be needed to treat 1,000 gallons.

Look ... no ash left by diesel fuel additive!

Metallic additives in diesel fuel leave an ash residue after burning. Cumulatively, ash deposits are a potential sparking hazard.

This is because the metallic residues may bind together the carbonaceous particles formed in the exhaust ports and the exhaust barrel and reduce their glow temperature. Under heavy load, these particles are likely to be blown from the stack in an incandescent state. That's the hazard.

Ashless Du Pont additive

You can easily eliminate this cause of sparking by using an ashless additive. Being nonmetallic, Du Pont Fuel Oil Additive No. 2 (FOA-2) leaves virtually no ash.

The bottle on the left contains the almost invisible amount of ash left after burning an amount of FOA-2 that would protect 1,000 gallons of fuel oil—at a concentration of 20 pounds per 1,000 barrels. The other bottles contain the ash left after cost-equivalent amounts of other additives were burned.

Prevents injector-sticking

Because it is an excellent stabilizer and

dispersant, Du Pont FOA-2 helps prevent injector-sticking and filter-plugging.

Ask your petroleum supplier about Du Pont FOA-2, or write us direct for more detailed information.



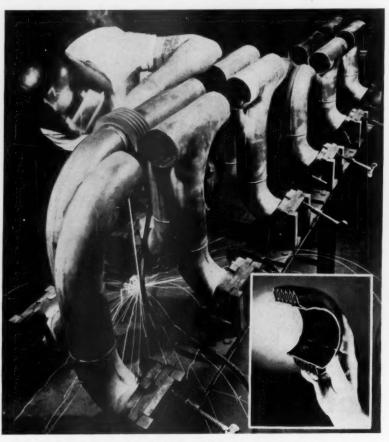
Petroleum Chemicals

E. I. DU PONT DE NEMOURS & CO. (INC.) - Petroleum Chemicals Division - Wilmington 98, Delaware

Stainless Manifolds

A departure from existing designs, this diesel engine exhaust manifold resists corrosive fumes through its all-welded construction of Type 321 stainless steel. According to Allegheny Ludlum, producer of the material, Type 321 has corrosion resistant qualities at temperatures up to 1,700 deg. F. It has been tested under operating conditions on an Eastern railroad and performed with only one removal for inspection for a period of 17 months.

In addition to corrosion, manifold failure has been attributed to vibration causing exhaust gas leakage in conventional slip joint construction. These problems have been solved by a system of bellows which expand and contract with the changing temperatures and gas pressures. Bellows construction also minimizes vibration. Metal fatigue from linear expansion is said to be eliminated. Fourteen stainless steel bellows work on horizontal sleeve arrangements. The two sleeve ends are permanently attached with one sleeve overlapping the other, permitting movement with no gas escaping. The entire manifold and shroud weighs 460 lb, compared to more than 1,000 lb for the cast types. Hanlon & Wilson Co., Dept. RA, Wilkinsburg, Pa. .



Bellows linked overlapping sleeve feature shown in the inset is said to provide the sealed, flexible action that is needed.

Copper Covered Wire

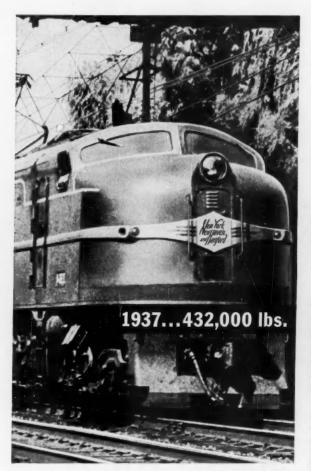
Development of a new type of line wire known as Copperply, of highstrength steel with a heavy copper coating, has been announced. In the manufacturing process used, the copper is electroplated to the steel wire. This process has been used by the manufacturer since 1953 to manufacture Copperply wire, with light coatings of copper (5 to 10 per cent by weight), for use in other fields, such as lead-in-wires, chain and building tie wire. However the process and equipment used to make this wire was not economically applicable for large quantity production of 30 per

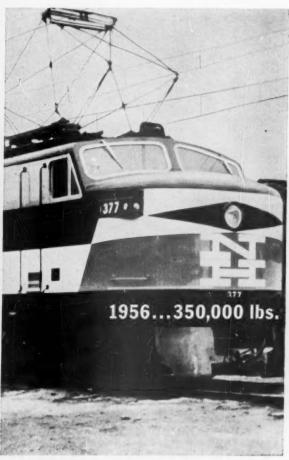
cent or 40 per cent conductivity wire in larger sizes. Three years of research and development were required to attain these objectives.

The new manufacturing method, now in operation, is based on improvements in the Kenmore plating process. Helical lengths of steel wire, about 5/16 in. diameter, are electroplated in a special bath that produces an unbreakable bond of copper and steel, and then finished to size in precision drawing operations. The wire is now being produced in sizes ranging from No. 1 to No. 12 AWG. The steel core is available in a wide range of strengths and hardness. Uniformity of the copper coating thick-

ness is held within 1 per cent of the overall wire diameter, for telegraph, telephone and signaling line circuits. Initial production is concentrated on existing commercial specifications. This copper thickness is uniform throughout circumference and total length.

The process is continuous, to handle up to 1,200 lb of finished wire in one piece if desired, or it can be furnished in any lengths as ordered. For No. 9 wire, 1,200 lb would be more than 6 miles of wire, if a railroad has equipment to handle this weight during unloading and construction. National Standard Company, Dept. RA, Niles, Mich.





BEFORE ... AND AFTER MAYARI R STEEL

High strength low alloy Ni-Cu steel helps out deadweight 19% in new New Haven electric

That crack streamlined electric at the right weighs 81,500 pounds less than the '37 locomotive.

This impressive 19% weight reduction was brought about through design improvements made possible with Mayari R—Bethlehem's nickel-copper high strength low alloy steel.

High yield point key factor in variety of structural weight reductions

Mayari R has a yield strength of 50,000 psi minimum in most commonly used sections, in the as-rolled condition. This — together with its good resistance to corrosion, abrasion and impact — permits safe weight reduction in side sheets . . . platform . . .

main and side sills . . . top and bottom plates and other important structural components.

If you want to reduce deadweight...add payload capacity, chances are you'll find just the combination of properties you want in high strength low alloy nickel-copper steels. They're stronger and tougher than plain carbon steels. And they're readily formed and welded.

Complete information available

New manual, "Nickel-Copper High Strength Low Alloy Steels", tells all you need to know about these nickel steels . . . their properties, how they cut weight, and much, much more. Just write.



THE INTERNATIONAL NICKEL COMPANY, INC. 87 Wall Street, N.Y.





THEN

Smoke pall from wheels and brake shoes accompanied descent of each Western Maryland freight train into Cumberland, Md.

WM LIKES THE OPERATING RESULTS ...

'Flat Maintaining' Speeds Trains

The pressure-maintaining brake valve along with the dynamic brake on severe grades is eliminating the use of retainers, and reduces lading and equipment damage

Pressure maintaining is speeding freight train movements over sections of the Western Maryland. Its introduction has altered operating methods most dramatically on those parts of the line where trains cannot be controlled solely with dynamic braking. It finds enthusiastic supporters from enginemen on up to G. M. Leilich, vice-president-operations. It was at the Superintendents Association meeting last June that Mr. Leilich said that pressure maintaining (also known as "flat maintaining") is the "greatest development since the air brake itself."

A special portion for the 24-RL brake valve in the locomotive cab converts it from the Western Maryland's original DS-24 type to the DS-24-MC model. This maintaining filling piece portion replaces the original filling piece portion that had the first service and brake valve cutout cocks. The new portion still has these two cut-out valves, and in addition has the maintaining cut-off valve located on it.

Pressure maintaining operates to make up brake pipe leakage so that a brake pipe reduction once made can be held unchanged for a considerable time without manipulation of the brake valve. After a brake pipe reduction has been made and the valve handle moved to the *LAP* position, the maintaining feature functions to supply feed valve air to the brake pipe

to keep its pressure equivalent to that in the equalizing reservoir on the locomotive. The result is that a brake pipe application does not gradually increase because of brake pipe leakage, and it is rarely necessary to release and recharge the brake system during the descent of long grades. This means that the brake system is not depleted through cycle braking.

'Bridge' Braking

This is not the only way that train line leakage can be made up. For years some railroads have given at least tacit approval to "trick" or "bridge" braking which achieves this same result. "Trick" braking has been an operation which requires considerable skill on the part of enginemen. The pressure maintaining feature has removed the necessity for unorthodox brake valve handling while producing a uniform operation by all enginemen.

A 22-mile eastbound descending



NOW

Flat maintaining and dynamic braking on these Alco and GM A units produce today's smoke-free operation on the same grade.

grade into Cumberland, Md., on the line from Connellsville, Pa., is an excellent example of an operation where the Western Maryland feels pressure maintaining pays off. This line is an almost continuous 1.75 per cent compensated grade with maximum curvature of 8 deg. Traffic down this long hill consists of manifest freight and loaded coal trains.

Standing instructions on the WM call for the use of air brakes only when dynamic braking will not control the train. This means that the use of the air brake, the use of retainers, and the effects of pressure maintaining are most important in the handling of tonnage trains. In this case it involves the handling of the east-bound coal trains.

Former Practice

When the Western Maryland was an all-steam operation, coal trains were required to have retainers set up on every car in the train before descending the 1.75 per cent grade. Dynamic braking marked the first big advance. Trains had to have over 700 tons for each dynamic-brake-equipped unit in the locomotive before any retainers were required. The rules then required that there be ten retainers used for each 500 tons over the 700-ton figure, but that not less than ten cars have retainers set up.

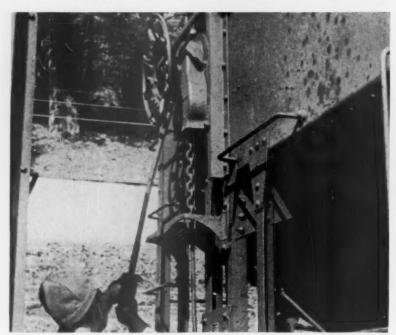
This meant that tonnage trains made two stops of at least 15 minutes each in the course of runs from Connellsville to Cumberland. Because of difficulty with stuck brakes, retainers were never set up prior to departure from the yard at Connellsville. Trains stopped at Rockwood, Pa., about 50 miles out, to set up retainers. After descending the 22-mile grade, a stop was made at the bottom and retainers were turned down before trains proceeded into the yard opposite Cumberland.

New Technique

Pressure maintaining has changed all this. The use of retainers has been eliminated. After eastbound tonnage trains have started down the hill, and the slack is bunched, a reduction of 7 or 8 psi is made and the brake valve is lapped while train speed is below that at which the train is to be operated. It is then possible to control variations in train speed by increasing or decreasing the dynamic brake application. A train with over 6,000 tons can be held at a speed of 23 to 25 mph with a three-unit locomotive. This speed is higher than that at which Western Maryland diesels develop their maximum dynamic braking power, and again the result is faster freight operation. In general, the descent of the grade takes about 57 minutes and is usually negotiated without touching the brake valve handle after the initial brake application has been made. Difficulties with overheated wheels have been almost eliminated, and brake shoe consumption has been reduced.

With a light service brake application, braking effort is evenly distributed throughout the train. Proof of this uniform braking effort is evident from the light smoke haze which exists all along the train after arriving at the bottom of the 22-mile grade. With cycle braking, there was always a heavy smoke pall from the head cars, and excessive brake shoe wear. A minimum of air must be produced by the locomotive compressors since they must only make up brake pipe leakage, and need not recharge the brake system as would be necessary with cycle braking.

From this it should not be assumed that the heaviest trains and the steepest grades are the only fields for pressure maintaining operation. It is applicable on any train which cannot be controlled by the dynamic brake at speeds at which it is desired to operate. The WM's own instructions mention the use of the brake on sections with rolling profile. It allows for more rapid release after slow downs, and prevents the run-in and run-out of slack. Running release can be made from lower speeds because a



Retainer operation is being eliminated at several points along the Western Maryland.

definite brake pipe gradient is established and maintained.

While running release from lower speed is possible, the Western Maryland warns that partial release of brakes should not be attempted. Such operation will raise the equalizing reservoir pressure and cause the maintaining feature to increase brake pipe pressure so that all brakes will release. Instead of this, if too heavy a brake application has been made, all brakes should be released; the brake system should be recharged; and another application should be made. On heavy grades tonnage trains should be stopped instead of attempting a running release.

This means that the brake valve should be operated so that the initial application is not too great. It is better to make an initial application which may have to be followed by one or more small reductions to properly control train speed. Initial applications of less than 7 psi should not be made because of the possibility of causing undesirable releases due to quick-service activity throughout the train.

Because the pressure maintaining valve operates to keep brake pipe pressure the same as that in the equalizing reservoir, a phenomenon known as "build-back" can interfere with the operation. Equalizing reservoir air cooled by discharge of part of the

air with a brake pipe reduction will gradually warm after the brake valve is lapped. Pressure in the equalizing reservoir will increase and could cause brakes to release unless excess pressure is "bled off" by momentarily moving the brake valve toward SERV-ICE position and then returning it to LAP. Western Maryland enginemen are cautioned about this characteristic.

Another important point is that with elimination of retainers there is no holding power when train brakes are released while stopped on a heavy grade.

This means slack should be bunched while stopping, and caution should be exercised while starting so that the entire train can move out as a unit after brakes have released. When making the initial terminal air brake test, the pressure maintaining feature must be cut out during the brake pipe leakage test to determine what leakage exists. After the leakage test, it is cut back in and the engineman is required to note that brake pipe pressure is then being maintained at a constant value.

Starting on Grades

Pressure maintaining has taken the guess work out of stretch braking. When three- and four-unit Western Maryand locomotives handling tonnage trains must be halted on ascend-

ing grades, the trains are now stopped stretched. When ready to depart, the automatic brake is applied and the locomotive is backed to take slack on the entire train. The reverser is then thrown; the automatic brake is placed in running position; and the locomotive starts to move the train before the brakes have released on the rear portion. Without flat maintaining. leakage would cause brakes to set up more than desired and make this starting difficult and much less practical. Care must be taken that the train is not buckled while the locomotive is backing into it.

Even in yard operations pressure maintaining is finding a place. In Bowest yard (Connellsville) which is a coal classification operation on a descending grade, crews are taking advantage of this new equipment. Crews in this yard use air on a block of cars coupled to the locomotive. A light brake application is made on these cars and the brake valve is lapped. This application provides an unchanging "anchor" which makes it easier to take slack and permit uncoupling, and makes it possible to stop cuts of cars using the engine brake alone. The Western Maryland has found this a real assistance to switching in this yard.

Some of Westinghouse Air Brake's pressure maintaining development work was done on Western Maryland locomotives. During 1955 the road began to apply the pressure maintaining filling pieces to all its road and road switcher locomotives with 24-RL brake equipment. At that time it began a program of training and qualifying enginemen. By late in 1956 the installation and training programs were complete, and pressure maintaining braking went into effect on all parts of this 850-mile railroad. In this it was not alone. The Baltimore & Ohio and Pennsylvania are also users of this equipment along with other railroads.

The Superintendents' Association summarized the conclusions of operating men in its 1956 report, stating that "the use of the brake valves incorporating pressure maintaining makes possible definite operating improvements both on grade and on level track territory. It provides advantages on long grades where brakes must be applied for considerable periods of time, as well as on short grades where releases are frequently required at low speeds."

Millions to Combat Rust

Corrosion-resistant alloys are but one phase of International Nickel's research activities, which hit the budget for \$7 million annually. Other developments from a program started in 1922 include alloys which develop high strength while resisting high temperatures.

A dollar's worth of research produces \$36 of sales and \$7.20 of profit. That's the experience shown by a cross-section of all industry in a 15-year study by the Department of Commerce.

The experience of the International Nickel Company may not be represented by these average figures, but they are a gage to the important part research has played in the development of this company and of its service to American industry, including the railroads.

Upon the cessation of World War I

hostilities, the world's nickel industry was faced with a serious dilemma. Production facilities had been materially increased in an effort to satisfy the appetite of the war machinery of the world. When this demand collapsed suddenly, it was realized that if the industry was to survive, important uses for nickel other than for war material would have to be developed. With foresight and considerable courage during this lean period, International Nickel inaugurated an extensive research and market development program to develop

new nickel-containing alloys and find new uses for old ones.

In 1918 a small research group was started at Bayonne, N.J., and a development group in New York. These two were merged into the Development and Research Division in 1922, and given the assignment of determining the properties of the nickel-containing materials and making this technical information available to the engineering profession and thus to industry. How well this division functioned-with appropriate support by sales and advertising efforts-during the ensuing years, may be judged from the total annual nickel consumption of 427,000,000 lb for all producers in 1955, as compared with 24,348,000 lb in 1922.

At present the worldwide Development and Research phase of Inco's activities employs about 750 people with an annual expenditure of \$7,000,000. The United States portion of this group consists of 143 scientific and technical personnel, divided among the main Research Laboratory at Bayonne, N.J., New York City, Harbor Island, N.C., and field offices in 12 major industrial cities.

The Bayonne Research Laboratory consists of seven separate buildings with 40,000 sq ft of area, and is one of the largest and most modern metallurgical laboratories in the country. It is a fully integrated operation equipped for the production and testing of alloys ranging from the precious metals through cast and wrought ferrous and non-ferrous materials. It is also engaged in welding, plating and corrosion studies.

Specialized Study

In order to cover adequately all of the facets of metallurgy, the laboratory operation is broken down into

WHY THIS RESEARCH SERIES?

The idea behind this Railway Age series, under the general heading of "Contributions to Railway Research," is to show, by a group of articles, the extent to which research in the interest of the railroad industry is carried on by manufacturers in the railway supply field. The first of the series appeared in Railway Age, Aug. 13, 1956.

The railroads have long been criticized for backwardness in research by uninformed people outside the industry. Actually, the industry's activity compares favorably with other industries. Its achievement is a cumulative job, in which the AAR and many individual railroads participate. Manufacturers of railway supplies have a particularly important role in the industry's research program.

Large-scale research operations, either wholly or chiefly devoted to the production of better transportation by railroad, are described in these articles. The material is provided on invitation by representative companies to report in their own way their own research contributions, and the series does not undertake to cover the entire research activity under way in the railway supply industry, or even in any one segment of it. The order in which articles appear has no relation to the relative importance of the companies concerned. The series nevertheless will serve to show convincingly the impact on the railroad industry, and thus on the whole American economy, of the continuing research going on in the industry to make more efficient railroad operation possible.

This is the story of International Nickel



THE INTERNATIONAL NICKEL Company's research laboratory at Bayonne, N.J., offers facilities for investigation into many fields. 1. Wet process (electroplating),

2. Melting store. 3. Main research laboratory. 4. Experimental foundry and mill. 5. Maintenance shops and storage. 6. Chemical stores. 7. Surplus equipment.

small groups, each equipped with the specialized equipment necessary to carry out the research in its field. For example, one such group is mainly concerned with the low-alloy constructional steels, another with high temperature metals for jet engines, and so on until all the myriad subjects are given coverage. It has also been found expedient to have certain research projects handled by various universities and industrial laboratories.

Another world famous research center, which is part of the Inco Development and Research Division, consists of the Kure Beach and Harbor Island Corrosion Testing Stations on the ocean near Wilmington, N.C. These stations literally make the ocean a test tube and have been providing industry, including the railroads, with an accumulating amount of information ever widening in scope on the effects of salt water, salt spray and salt air upon metals, wood, plastics, painted and other coated surfaces, and even rope.

The Kure Beach installation consists of two separate areas. The

smaller area located 80 ft from the shore is about one acre in size and the larger lot, 800 ft from the water, comprises $3\frac{1}{2}$ acres. Up to the present more than 35,000 specimens have been exposed here by Inco and cooperating companies.

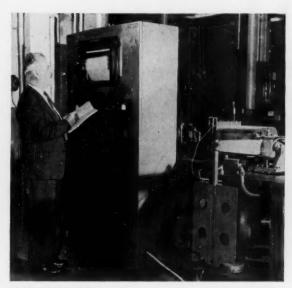
Dealing with Corrosion

The Harbor Island station consists essentially of two buildings which provide 8,000 sq ft of indoor laboratory testing and study space as well as a dock with racks and other equipment for sea water exposure studies. Harbor Island and other units of the Kure Beach project are designed primarily to increase knowledge of how to solve corrosion problems. Its beneficiaries are the producers and users of materials of all kinds who are helped to reduce the annual toll of several million dollars a year due to corrosion, marine growth and affiliated enemies of raw and manufactured products.

While operated by Inco, these research facilities have been conducted on an entirely cooperative basis and more than 100 producers of competitive materials have united in the acquisition and free exchange of information on the ravages of marine corrosion.

Another important activity in the Development and Research Division of Inco is located in the New York office and the 12 field offices in various cities in the United States. The New York group consists of specialists in one particular industry-such as railroads, petroleum, automotive, power and others, who are experts in certain phases of metallurgy, such as corrosion, heat effects, fabrication methods, wrought steels, ductile iron, cast iron, Ni-Resist, Ni-Hard, cast steels, stainless steels, plating, nickel bronzes, electronics, high nickel alloys, high and low expansion alloys and platinum group alloys.

It is the function of the personnel in these groups to contact the industry of their specialty so that trends and needs are anticipated and any weaknesses are remedied by appropriate research efforts. This group, which has the research facilities available for its guidance, also serves as consult-



INCO DESIGNED gear testing machine indicates changes in temperature and sound level, shows the origin of failure. Machine also determines the fatigue life of gears.



LABORATORY for developing new welding electrodes. The experimental rods are coated in the extrusion press prior to further study of their behavior characteristics.

ants on metallurgical problems and assists the various industries in obtaining the most economical material available to fulfill the engineering needs of their product.

How Railroads Benefit

Probably one of the earliest applications of nickel alloys in the railroad industry in this country was on the Chicago, Rock Island & Pacific, which, in 1855, purchased the Silver Locomotive from the Universal Exposition in Paris, and placed it in service at Councils Bluffs, Iowa. This 4-4 locomotive had trimmings, fittings and boiler jacket made of gleaming nickel silver. A piece of the original jacketing material is on display in the Rock Island's office at Silvis, Ill., and is still as bright as when purchased.

International Nickel has devoted considerable effort to research projects

covering all phases of the railroad industry, particularly in the motive power, car and engineering fields. Some of the development work on the corrosion-resistant, high-strength lowalloy steels which have proved themselves in freight and passenger car construction was conducted in the Inco laboratories.

Work on the properties of the austenitic stainless steels, both mechani-(Continued on page 34)



A GREAT VARIETY of materials, of which this rack of rope is typical, are tested by immersion at Harbor Island.



AERIAL VIEW of Harbor Island test station. The pilings supporting the dock are also under test.



From rail to boat at 4,000 tons an hour . . .

'Fastest' Coal Terminal Warms Up

CAPACITY. New rail-to-water coal transfer operation in Chicago handled more than 6 million tons last year using only partial capacity. Completed in 1956, the facility is expected to handle more than 7 million tons in 1957—10 million by 1960.

SPEED. The key to the speed with which the terminal handles coal is found in its new, up-to-date loading equipment which moves coal from hopper cars to boats at a rate of 4,000 tons per hour.

CARLOADS. The Belt Railway of Chicago which "feeds" the terminal, handled 113,616 cars in and out of the facility last year—and expects to move nearly 130,000 cars this year.

The time has come when a lake boat skipper can tie up at 101st street in Chicago's Calumet river, say "fill 'er up," and cast off just two hours later with a cargo of 8,000 tons of coal. This phenomenal rate of coal transfer from hopper cars to ships' holds is a reality because of a new transfer terminal operation completed last year.

Appropriately named the Rail to Water Transfer Corporation, the operating company is owned by 29 coal producers. It boasts that this is the fastest method for coal transfer in the country.

Cars of coal are routed to the terminal at present over these six railroads: The Illinois Central; Chicago & Eastern Illinois; Burlington; Gulf, Mobile & Ohio; Wabash; and New York Central. All of these roads have connections with the Belt Railway of Chicago which directly serves the terminal. Over 50 different types of coal are moved through the terminal, which loads lake boats for destinations north of Chicago on the Great Lakes, including many Canadian ports.





STRING OF CARS is pushed onto unloading hopper by one of four Belt switchers serving the terminal.

The Belt Railway has yard tracks completed and under construction which, when the shipping season on the Great Lakes opens this year, will provide the facility with a total of 72 car storage tracks having a capacity of 2,210 cars. Since it is impossible to provide storage for sufficient quantities of each required variety of coal at the terminal, most of the carrying roads have made car storage arrangements in the Chicago area in order that desired types of coal can be supplied to the terminal upon relatively short notice.

Improvement Over Past Method

The present terminal is an expansion and modernization of a facility first put into operation in 1948 at this location. At that time, and up until last year, ships were loaded by means of a single, stationary loading tower. This method necessitated repeated movement of the ships as they were being loaded, as successive holds were filled and "topped." Such movements often ranged as high as 44 moves per vessel for one full cargo load.

On April 2, 1956, Rail to Water initiated the first of its present two, movable loading towers. The first

unit was built by the Heyl & Patterson Co., Pittsburgh, Pa., and is located at the north end of the facility. The second loading tower—at the south end of the terminal—was designed, as were the unloading hoppers and the network of conveyors that serve the facility, by the McNally-Pittsburgh Manufacturing Company, Pittsburg, Kan., and the David W. Murray Company, Cleveland, Ohio.

The second new tower went into operation July 23, 1956—well after the start of the shipping season. Fabrication and erection of the 1,200 tons of steel which went into the construction of the facility were done by Allied Structural Steel Companies, Chicago.

An Imposing Record

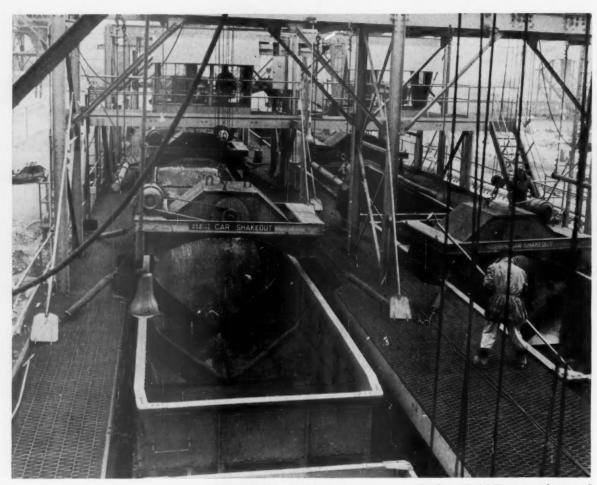
In modernizing the terminal to permit the simultaneous loading of two boats, the Rail to Water Transfer Corporation built a new dock wall along the river front. A bad angle bend, considered a navigation hazard, was eliminated in the process and the dock area was dredged by Army engineers to accommodate vessels of as much as 29-ft draft. The new dock wall was sunk to this depth. The present dock area, now 1,550 ft in

length, consisted of two piers of 775 ft each. In eliminating the bend in the river, the company reduced its river frontage by some 195 ft.

Despite the fact that the new terminal facility didn't go fully into operation until comparatively late in the shipping season, and in spite of the fact that last year's tugboat strike on the Great Lakes seriously hampered operations-especially insofar as the loading of the larger lake vessels was concerned-the terminal racked up an imposing record for the year. A total of 113,616 cars were handled in the transfer of 6,321,631 tons of coal. This amounted, over the year, to the handling and unloading of an average of 668 cars per day to load the year's total of 815 lake boats. Leo M. Geissal, president of Rail to Water, predicts that this year's tonnage will easily exceed seven million and that, by 1960, the terminal will be handling 10 million tons of coal or more annually.

Automation the Key

Here's how the operation works: Trainloads of coal in bottom-dump hoppers are pushed onto the unloading hoppers over two loop tracks. The unloading hoppers accommodate five



SHAKEOUTS are applied to cars to speed unloading. Coal falls onto underground conveyor belts and is raised $115~\rm ft$ to transfer tower where it is dumped onto . . .

cars at a time on each of the two tracks. The cars unloaded on one track feed the south loading tower—those on the other, the north tower. In position on the unloading hopper, the cars are emptied onto underground conveyor belts which carry the coal to the top of a transfer tower 115 ft high. Hewitt-Robbins car shakeouts are applied to the cars to speed their unloading.

All of the conveyor belting incorporated in the system is of rubber composition, manufactured by U. S. Rubber and Goodyear. The belts are all 72 in. wide and are operated at speeds of from 565 to 700 ft per min. The speed of the belts is automatically controlled in accordance with the rate of unloading the hopper cars and the rate of loading of the coal into the boats. Motors which power the system were built by Westinghouse and by General Electric.

The collector belts which receive the coal, as it is dumped from the cars on the unloading hopper, carry it to the top of the transfer tower where it is dumped, in turn, upon one of the two transverse conveyors which carry the coal, 115 ft above the ground and parallel to the river, to the loading towers. The transverse conveyors are operated at speeds somewhat faster than the collector belts to prevent "pile up" of the coal at the transfer point. The transverse belts are supported by steel trestlelike structures which carry them 432 ft north and south of the transfer

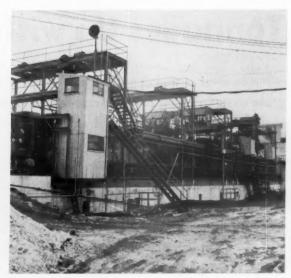
Precise Loading Control

The ship loading towers are supported by electric-motor-driven trucks which travel over crane rails supported by concrete foundations. The towers can move the full 432-ft length of the transverse conveyors. The loader operator controls the ship-loading operations from a cupola directly above the loading spout. He can exert such complete control over the loading spout that one observer, watching coal being deposited in a ship's hold, remarked about the machine: "Damn near human, ain't it?"

The unloading towers scoop the coal up off the transverse conveyors. Any coal which may get by the pickup scoops is dumped into catch hoppers at the ends of the two belts. The coal picked up by the towers is fed by conveyors within the tower structures to the loading spouts. Each spout can be raised, lowered, shifted side to side, rotated 360 deg, and opened and closed speedily and with a high degree of accuracy. Normally, the operator will fill the holds of a



. . . TRANSVERSE CONVEYOR. North loading tower, shown in background here, picks up coal from transverse belt, transfers it to loading spout, thence to ship's hold.



UNLOADING HOPPER accommodates 10 cars on two tracks. Prediction is that by 1960 the terminal will be handling 10 million tons of coal a year.

ship in succession, then come back and "top" each hold to full capacity.

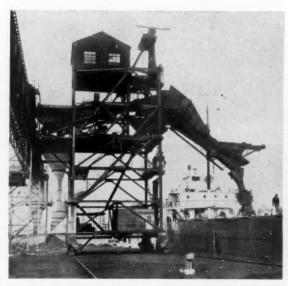
An automatic electronic recording mechanism keeps complete records of cars handled, belt speeds, delays, and tower movements. To date, the peak loading rate reached has been approximately 4,000 tons per hour.

The new facilities cost the Rail to Water Transfer Corporation some \$4.5 million. A transfer rate of 19 cents per ton was established in 1947 as the original facility went into operation and, shortly thereafter, was reduced to 17½ cents per ton of coal handled. Mr. Geissal proudly points out that, while labor and material costs have risen greatly since that time, the 17½-cent rate is still in effect and no immediate increase is anticipated.

Facilities constructed by the Belt

Railway to serve the terminal, i.e., yard tracks, yardmaster's office, etc., cost the road about \$932,000, according to a spokesman for the railroad.

It is interesting to note that some consumers as close to Chicago as Milwaukee, Wis., (about 85 miles) choose the rail-water mode of transport, claiming the cost to be more reasonable than the straight-rail rates from mines north through Chicago.



NORTH TOWER, built by Heyl & Patterson, picks up coal from belt, loads it into ship bound for Canada.



COMPLETE CONTROL can be exercised over the movement of the loading spout by the tower operator.

Tonnages Up with Rail Conditioning

The Reading is now chemically treating the rails on a 35-mile grade on its Catawissa branch. As a result, average tonnages have been increased 17 per cent, and an estimated net saving of 25 to 40 cents per train-mile is realized.

Much driver-rail adhesion is lost when there is high moisture and a small amount of oil or grease on a rail. The moisture serves to spread the grease over the surface of the rail in a microscopically thin slippery layer which defies removal by the driver.*

This film can be removed by washing, but the cost is prohibitive. The problem has been to find a suitable high-speed chemical conditioner to overcome the "slipperyness" of the film at a reasonable cost.

*This fact was discovered and reported on by R. K. Allen of General Electric Company, (Oct. 11, 1954, Railway Age).

From 1953 to 1955, the General Electric Company and the Reading ran a large number of tests to discover a means of removing this offending oil film in a practical and efficient manner. Laboratory investigations indicated it might be possible to use a high-speed detergent. A railroad maintenance-of-way track car was equipped to wash the rail.

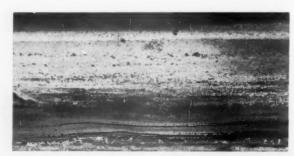
The results were satisfactory in that on a tonnage train the number of wheel slips on the 35-mile grade could be reduced from the original range of 100 to 200 down to two or three with very thorough washing, and more importantly, thorough rinsing (Railway Age, Nov. 21, 1955). However, the cost per mile to wash and rinse the rail was prohibitive

and indicated a need for some other means of eliminating or neutralizing the film.

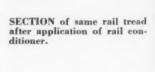
Early in 1955, the National Aluminate Corporation (Nalco) requested permission to participate in these tests with chemicals of its manufacture which had shown considerable merit in laboratory tests. Through 1955 and a portion of 1956, joint research was carried on by the Reading, General Electric and Nalco to progress tests on a type of chemical, now designated as Nalco RC rail conditioner. This is a sprayable liquid which overcomes the lubricating properties of the oil film.

Several methods of applying Nalco RC were investigated. The Reading has found that for its present operation the most practical method is to use a maintenance-of-way track car equipped to spray the rail. The car is equipped with two 30-gal galvanized tanks and a small compressor maintaining 40-lb pressure in the tanks. Nalco RC is sprayed on the rail at a car speed of 20 to 25 mph through a nozzle at an approximate rate of one quart per rail per mile, or ½ gal per mile of track.

In June 1956, encouraged by tests which indicated that operating ad-

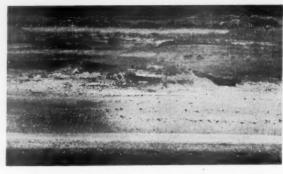


SECTION of oil-conditioning rail tread before application of rail conditioner.





SECTION of rail tread after passage of first train over conditioner rail.



hesions could be raised substantially, with corresponding increase of tonnage, the Reading and Nalco arranged for a long-term evaluation under all operating conditions. The results have been good enough to justify incorporating the application as part of

regular railroad operating procedure.

During the five months (June through October, 1956) when rail conditioner was used, a substantial increase in adhesion permitted the average tonnages to be increased by approximately 17 per cent, thereby permitting greater utilization of motive power.

The table shows the performance of two selected trains, one operated in clear weather prior to rail conditioning and the other in adverse weather with rail conditioning:



MAINTENANCE of way car converted for rail conditioning showing pressure tanks, gasoline-driven compressor and trailing nozzle dolly.

Rail conditioning	Rail conditioning
Three 1,600-hp	Three 1,600-hp
NJ-4	NJ-4
Clear	Rain
7,275	8,279
2 hr, 45 min	3 hr, 28 min.
14.29	
780	850
925	
18.5 per cent	22.5 per cent
	14.29

*Corrected for a wheel diameter of 373/4in.

REMARKS: Prior to rail conditioning—Constant wheel slipping for entire 35-mile grade. With rail conditioning-Occasional wheel slip, primarily wheel walks. No loss of speed due to slipping.

Railroading



After Hours Jun Lyne Editor, Railway Age

SUCCESS FORMULA-H. R. Searing, a Lackawanna director and chairman of the

New York Edison Company, told me the other day of a three-pronged formula for success, which came to him from a friend of his in the waterworks business. Here it is:

1. Never kick a man when he is up.

2. Always be polite to opportunities.

Keep quiet about what you don't know.

Which is, certainly, an unusual (hence memorable) way of saying that a man seldom harms himself by being reasonably modest; and by treating people considerately. It really shouldn't make any difference whether the people are "up" or not-because those who aren't up today may be so tomorrow.

I once knew a fellow who was often pretty rough in his dealings with associates, and with his opposite numbers in other companies. Then one fine day one of the fellows he had treated inconsiderately turned up as his boss.

BIG LETTERING-On this continuing subject, I have a note from D&H's William White in which he refers to the printer's ink I have been "wasting" here in trying to find out what railroad started the trend toward larger lettering on their cars. He asks: "What difference does it make?" And having put that question, he turns right around and hands me an informative squib on how the term "gandy dancer" got started.

The answer to his question is that it is such seeming trivialities as the difference in lettering on cars, and disputes as to who did this or that thing first, that makes railroading so interesting. If it weren't for inter-company

differences and the continuing novelty encountered in railroad work, then railroading would be as tiresome as doing the same repetitive job day in and day out on some assembly line.

I'll never forget what a telephone company officer once told me about the comparative personnel problems of the telephone and railroad industries. He thought the railroads' problem was inherently an easier one, because of the variety which characterizes most railroad jobs.

ARE ACCIDENTS INTERESTING?—One question I've never been able

to answer to my own satisfaction is whether discussion of railroad accidents is predominantly helpful or harmful. There is certainly a harmful side to such discussionsuch as making customers nervous and giving ammunition to the competition. On the other hand, knowledge of the cause of specific accidents is one of the necessary means toward developing preventive measures.

Whatever may be the right policy toward the reporting of accidents for public consumption, nothing in the world will ever stop oral discussion of them by railroad menand, here again, it isn't a case of the discussion arising just because it is worth-while, but largely because it is interesting. Getting at all the contributing causes of a complicated accident arouses the same kind of interest that leads people by the millions to read detective stories.

What keeps the railroads in business, primarily, is their efficiency in doing their work-but the fact that railroading is interesting is a big help too. And there's no use in sacrificing the interest, whenever it can be retained without disadvantage.

(Continued from page 27)

cal and corrosion aspects, is still in progress. One such project now being studied resulted from a desire to determine the properties of stainless steel and other materials as to their relative abilities to survive without serious damage the suddenly applied stresses encountered in wrecks.

Extensive research has also been conducted to develop better high temperature metals for diesel locomotive valves and superchargers as well as high strength cast irons for liners and pistons.

When the horsepower output of diesel locomotives was increased, the temperature of the exhaust gases rose to such a degree that the low alloy cast iron manifold did not possess sufficient resistance to growth and oxidation to provide adequate service life. It was then that one of the diesel builders standardized on one of the family of Ni-Resist cast iron alloys developed in the Bayonne research laboratory during the late 1920's. This Type III Ni-Resist manifold has out-performed any material tried in this application.

It was noted during the development work on these alloys that the coefficient of expansion of Type I Ni-Resist closely matched that of the aluminum piston alloys. Through cooperative research with other companies methods were developed whereby Ni-Resist piston ring band inserts could be placed in the aluminum to provide a more wear resistant metal to carry the piston rings. This development has greatly increased the life of aluminum pistons.

Considerable work has also been done in the Bayonne laboratory on heavy duty gears, anti-friction bearing steels, and other highly stressed locomotive and car parts.

The research facilities of the Nickel Company are continually working with the railroads to give them the best and softest material to do any given engineering job at the most economical cost.

WHAT SHOULD YOU ADVISE?

Should Your Son Go Railroading?

Here is an authentic letter from a railroad president which answers that question with an emphatic YES—picturing a bright future for the industry and for alert young men who make railroading their career

DEAR SON:

In a few weeks you will graduate from the university and, barring military service, you will be starting on the career which you hope will justify your long hours of engineering study. It is your career that I want to talk with you about. Facing you is a reasonably final decision as to whether to stay in railroad work—after four summers of it, plus your 22 years of second-hand knowledge from association with me—and if so, on what railroad.

You know full well that I want you to decide finally upon railroading as a career only if you want it and only if you are thoroughly sold on its opportunities. It is to help clear away any possible cobwebs with respect to your decision that I want you to know my convictions from the vantage point of a lifetime more than twice your own and with most of it spent on several different railroads.

My past experience is not important. The past history of the railroad industry, while interesting, is relatively not important. The important thing—and it is always so—is looking ahead.

The future of the American railroads offers exciting and rewarding opportunity. I have never been more optimistic about our capacity to have our industry rise to new levels of achievement which will more than meet our obligations to American business, and to the public interest in its entirety.

The Economy Is Growing

Bear in mind that today we haul about half of the intercity ton-miles handled by all forms of commercial freight transportation. Nothing but defeatism can prevent our again raising this proportion to well over 60 per cent of the total. This will be partly from regained traffic and partly because of the changing characteristics of consumer goods, and the way they are packaged for transportation, the net effect of which will be to lower the proportion of total potential tonnage attractive to our greatest competition—the highway.

Our steadily growing population means more families wanting goods, more factories to produce them and more transportation to integrate the raw materials and the distribution of the finished products. The basic economy of railroad transportation, with the improvements to come steadily from minds such as yours—if coordinated with pricing practices which keep us modern and forward looking in the competitive field—add up to confidence unlimited. There is commencing, at long last, a revolution—and a healthy one—in our pricing practices and in our recognition of what our customers need.

Let me emphasize by repeating in different language that this demand for American goods is unlimited. Luxuries of today are the necessities of tomorrow. Demand means a healthy American economy. The meeting of demand for goods means transportation—and this is our business.

The indefinite need for railroad transportation is just as real as the rising of the sun. There is increasing realization of this in government—particularly at the federal

"The American public . . . is not interested in railroad problems, but it will support enthusiastically railroad solutions. . . All too often cold analysis shows alleged troubles to be internal rather than matters requiring the weight of public opinion for their solution."

level—and some reasonable modification of restricting regulation is inevitable. This will not be to favor the railroads but rather to improve their opportunities to compete with other forms of transportation having less restrictive regulations, if any regulation at all.

Pessimism Is Overdone

You have been concerned about public statements of pessimism by railroad people themselves. Your concern is shared by many in the business world for it sometimes appears that first principles have been superseded by an almost hysterical element of defeatism, of almost emotional fear. And of what?

Never forget that our great American business system is one of profit and loss based upon private capital and individual initiative, but with managerial responsibility and accountability to both owners and the public. Sometimes the opportunity under such a system brings abuses such as monopoly, and it is in this sense that all business has "ground rules," as it were, which can loosely be called regulation.

At the risk of seeming to preach, I remind you that each of us, as an individual, is bound by fundamental principles of conduct. It is sometimes less clear that any successful American business enterprise must have clearly understood policies and strong standards of ethics for the guidance of its officers and employees. Clarification of this is of prime importance to employees and to the public. And no guiding policy is more important than that of believing in our business system. It carries on to our recognizing that the railroad industry is a part of that system and subject to all of its great opportunities as well as its limitations.

A railroad is a business enterprise. It has no inherent right to public support. It exists, historically and now, because it serves the public. And it will exist in the future to the extent that the service—economically and qualitatively—merits public esteem and induces use in sufficient volume to yield reasonable earnings. These, in turn, are necessary for reasonable dividends to stockholders, reasonable pay and dependable employment for officers and employees, and adequate reserves for new equipment, improvements and research.

Safety Is First Responsibility

Safety of transportation is our first responsibility to passengers and to the owners of goods entrusted to our care. It means train and yard operations properly carried out in accordance with basic rules established for that purpose. It means highly responsible maintenance and inspection of equipment. It means the setting and observance of high standards for the maintenance of tracks and facilities. It means the fundamental belief on the part of officers and employees in the ideal of absolute safety of operation.

Economy of operation and maintenance is our obliga-

tion, as is true of any business in the American system. We owe economy to our stockholders. We owe economy to the public who are using our service and who are entitled to know that a full measure of efficient operation is being provided in relation to the amount we charge.

Economy connotes efficiency. It calls for ingenuity. It requires constant and critical analysis of practices. It means recurrent evaluation of methods. It means thrift in the acquisition, care and use of materials. It means a mutual interest upon the part of officers and employees, giving a day's work in good and conscientious measure. No officer or employee respects a superior who permits him to contribute less.

An Obligation to Serve

Service to the public is our sole product. It has many ramifications, not the least of which are courtesy, friendliness and an understanding of the customer's needs. So often these "pluses," beyond a basic service, are the difference between success and failure of small business and large business alike. We must strive to anticipate the needs of our customers in comfort, in equipment, in movement and in character of handling. We must regard dependability, regardless of obstacles, as an obligation taking precedence over every consideration other than safety. If we are proud of our dependability in filling a transportation contract, how better can we impress the public with our sincerity of effort? We must accept the obligation to provide the equipment desired when it is desired and of the quality desired. Unsatisfactory equipment accepted by a patron in resigned toleration begets neither respect nor confidence.

We can return to a merchant a piece of merchandise which is unsatisfactory, which does not meet the representations made in connection with its sale. But transportation cannot be returned to a railroad to be tried over or exchanged, and the buyer, next time, all too readily can use another form of carriage. This is where a recognition of our obligation to the public is of such primary importance.

The pricing of our service is but partially within the control of the railroad industry in the sense that there are certain regulatory restrictions; yet we have the obligation to our customers and stockholders, as well as to ourselves, to fight for simplified and realistic price tags. We must face competitive realities. We must recognize changing industrial problems. We must inform ourselves fully as to where pricing practices are injurious to the needs of our patrons and to the greatest profitable utilization of our services, to the end that we may have the broadest available background for use in correcting such conditions. Circumstances, both within and beyond our control, have provided a rate structure so complicated that clear thinking and carefully evaluated action are indicated when changes are under consideration.

No better illustration of this is possible than to tell you that our one railroad has more than 15,000 published

prices for freight transportation between its terminals. Yet we sell but one product. It becomes obvious to you why I emphasize the simplifying and modernizing of our pricing as one of our most important solutions toward more traffic and better public understanding.

Overregulation by public authority is not the fault of this generation of railroad men. Without being derogatory beyond the boundaries of equal treatment to other forms of transportation, we must work diligently to remove, or at least modernize, the more burdensome restrictions against our economic and competitive freedom. But in our handling let it be apparent that we are constructively building for the future, not complaining about the past; let it be apparent that we are eager to promote public understanding, but have no desire for public sympathy or favor.

Perhaps you feel that I have gone far afield from the matter of defeatism and pessimism. Let me simplify it this way. I have tried to lay a base of fundamentals. They are all important, provided they are integrated with one paramount ingredient of good management, namely confidence.

Confidence Is Fundamental

American business enterprise has grown and prospered by confidence in itself, by confidence in the future. It has never grown and seldom prospered by having management voluntarily curtail its horizon of opportunity and carry to the public a tiresome tale of alleged injustice and self-pity, with a liberal amount of suggestion, in our case, that sympathy would be acceptable in lieu of occupied passenger seats or loaded freight cars. The American public never has been impressed with the "crying towel" approach, and it never will be. It is not interested in railroad problems but it will support enthusiastically railroad solutions.

The public is interested in a program of improvement, of determination to build constructively for the future. It is not interested in management troubles, as such, and all too often cold analysis shows alleged troubles to be internal rather than matters requiring the weight of public opinion for their solution. Incidentally, don't ever be misled into believing that inspired newspaper stories and paid advertisements can substitute in the development of public good-will by friendly, dependable service with adequately maintained and well planned facilities.

So Much to Be Done

We are currently in the backwash, in some railroad thinking, of the New Deal philosophy of something for nothing, of the country owing us a living, of substituting platitudes for the reality of results from hard work by aggressive, competent management. One of the fascinations of railroad work is in achieving solutions. The opportunities for such satisfaction are unlimited.

Your generation will progress many designs for im-

provement in the railroad picture. Some of these are now apparent. Competition will force the improvement in management control possible by consolidations and there are many which commend thorough study. Economies from standardization of equipment have scarcely been touched—particularly if integrated with car replacement and modernization being taken out of the peak-and-valley nightmare of the past into a planned program so definite that commitments of five and ten years can be made with the car builders. Such a plan means cheaper first cost and orderly maintenance. Consumer research into the transportation needs, the distribution requirements of our present and potential customers, has only been approached. Coordination with other forms of transportation is inevitable.

I mention these only to suggest some of the many major things we can do ourselves to help ourselves. That approach is progress and will ever be so—provided we never hesitate long enough to indulge the complacency that comes from confusing the accomplishments of the present with the opportunities of the future.

There is one more vital facet of overall balance which you must never forget, which responsible management must never forget. It is the realization that the law of supply and demand is fundamental to our American business system. A spectacular illustration currently is that of the money market. Many people from time to time have tried to depreciate, if not repeal, this law. None has ever succeeded.

Fundamental to Railroading

In railroading, the recognition of how and why this law makes business succeed or fail is fundamental to the interpreting of business expectations as well as the internal running of our own organization. One can close his eyes to first principles but no amount of delusion, wishful thinking, bluster, nor frustration will in the long run change their application.

If I have contributed toward strengthening your belief in the future of the railroads by sharing with you a measure of my own confidence, this letter will have served its purpose. If it contributes toward your deciding upon a railroad career I will be proud beyond belief.

But if so, it leaves one major decision in your hands—with what company to affiliate. That must be your choice. I would prefer it not be my own and I suspect that you yourself are determined to stand wholly upon your own feet. That I commend. I do suggest that you regard starting compensation and location as of trival importance compared with company attitude, the character of its management and its outlook toward the future.

If you choose wisely in this respect and then give of yourself to the maximum of your capability, never depreciating the importance of the personal relationships which reflect character and ethical conduct, I have no fear of your finding for yourself the deep satisfaction and happiness which has meant so much to me.

Yours,

DAD.

"I have never been more optimistic about our capacity to have our industry rise to new levels of achievement."

Car Fleet Rose by 1,960 in November

Class I railroads added 1,960 freight cars to their serviceable fleets during November 1956.

This was reported by Chairman A. H. Gass of the Car Service Division, Association of American Railroads, in his latest review of "The National Transportation Situation." He also reported that the serviceable fleet, as of December 1, 1956, was up 14,121 cars from that of January 1, 1956.

The November increase was due to a net gain in ownership of 1,788 cars, and a 172-car reduction in the bad-order backlog. The ownership gain resulted from installations of 5,896 new cars while 4,108 old cars were being retired.

Including 354 new cars installed by car-line affiliates of Class I roads,

November installations totaled 6,250 cars, exceeding those of any previous month since October 1953. The carline affiliates, however, suffered a net loss in ownership, having retired 620 cars during the month.

Detention reports for November indicated that 21.24% of the cars placed that month were detained beyond the free time, compared with 20.56% for October and 20.34% for November 1955.

Performance data showed that freight cars produced an average of 1,073 net ton-miles per serviceable car per day in September 1956, the latest month for which figures were available.

That was above August's 1,036 and only slightly below September 1955's

Suez Crisis Hurts Export Coal Business

America's coal-hauling railroads are among the victims of the Suez Canal traffic jam, William R. Coe, chairman of the executive committee of the Virginian, told the New York Society of Security Analysts recently. The canal clog-up, he said, has forced the diversion of additional ships from an already "inadequate" fleet.

an already "inadequate" fleet.
"Prior to Suez," Mr. Coe said,
"there was no doubt in my mind that
the 1957 export coal trade through

Hampton Roads would be in excess of that of 1956. Until that situation clears up, I feel that 1957 exports will be limited to the availability to the trade of ships." He held out little hope for "clearing up" of the situation in the foreseeable future.

Nevertheless, Mr. Coe asserted, the Virginian "is proceeding on the assumption that barring an economic collapse in Europe or a new World War, the export market for its coals is not only permanent but will increase over the years." He told of the road's purchases and plans for purchase of additional cars to handle coal traffic, as well as acquisition of additional power and modernization and expansion of its coal pier facilities.

As to the "inadequacy" of coal shipping, Mr. Coe said that the operating problems of Pocahontas Lines are "pressing," largely because of the difficulties of coordinating rail shipments from mines with the arrival of ships at Hampton Roads. It was to eliminate ship shortages that the Virginian, the Chesapeake & Ohio and the Norfolk & Western acquired one-third interest in American Coal Shipping, Inc., which he described as "a company organized to facilitate the introduction of additional ships into the coal export trade."

An additional complication for export-coal-moving roads, Mr. Coe said, is the imbalance between modern coal loading facilities here and inadequate unloading facilities abroad. This, working with bad-weather delays of ships, results in frequent pileups of coal cars waiting ship arrivals.



Atlantic States Shippers Advisory Board.—The 33rd annual meeting will be held in the Mayflower Hotel, Washington, January 9-10. Maj. Gen. E. C. R. Lasher, executive director, Military Traffic Management Agency, will be principal speaker at the meeting; he will address a luncheon on the 10th.

Mid-West Shippers Advisory Board.

—The 33rd annual meeting will be held in the Palmer House, Chicago, January 9-10. Fred G. Gurley, president of the Santa Fe, will address a joint luncheon of the board and the Traffic Club of Chicago on the 10th.

New York Chapter, National Defense Transportation Association.— Eric Rath, president, TMT Trailer Ferry, Inc., will be the speaker at a meeting to be held in the Waldorft Astoria Hotel, at 8 p.m., January 9; subject—"Trailer Ships, Logistics' Answer to Mobile Defense.

New York Railroad Club.—Harold F. Hammond, executive vice-president, Transportation Association of America, will speak at a dinner meeting in the Hotel Commodore, January 17; subject—"Is Transport Regulation Keeping Pace with Transport Developments?"

Philadelphia Traffic Club.—Labor columnist Victor Riesel will be main speaker at the 45th annual dinner January 8 in the Benjamin Franklin Hotel, Philadelphia. Joseph A. Fischer, president of the Reading, will be toastmaster.

Signal Section, AAR.—The 58th annual meeting will be held in the Conrad Hilton Hotel, Chicago, September 19-21.

Traffic Club of Detroit.—New officers: C. R. Herrick, vice-president, Western Auto Transports, Inc.; first vice-president, Jas. C. Barden, regional sales manager, General Expressways, Inc.; second vice-president, Howard J. Connelly, director of traffic, Chrysler Corporation; secretary-treasurer, Hugh D. Campbell, manager, Transportation Bureau, Detroit Board Commission.

Transportation Club of the Rochester Chamber of Commerce.—The 33rd annual dinner will be held at 6:30 p.m., February 7, in the Chamber of Commerce Banquet Hall, Rochester, N.Y. Maj. Gen. E.C.R. Lasher, executive director, Military Traffic Management Agency, will be guest speaker.

Western Association of Railway Tax Commissioners. — The annual meeting will be held at 9:30 a.m., February 12, 1957, in the Palmer House, Chicago.



Fund Campaign Leaders

Lynne L. White, board chairman, Nickel Plate, H. E. Zdara, Christmas Seal campaign chairman at Cleveland, and Walter J. Tuohy president, Chesapeake & Ohio (left to right), man display in Cleveland Union Terminal as part of Cleveland Railroad Community Committee effort for anti-tuberculegic fund.

Supply Trade

T. M. Evons, president of H. K. Porter ompany, has been elected chairman. Company, has been elected chairman.
Charles L. Holbert, executive vice-president,
Refore has succeeded him as president. Before oining the Porter Company in 1956, Mr. Holbert was executive vice-president of Southern Pacific Milling Company, Ven-

Paul V. Galvin has been elected chairman of the board of Motorolo, Inc., and has been succeeded as president by Robert W. Galvin, formerly executive vice-president.

John E. McDonnell, who has been handling industrial and railroad accounts in the New York district for Edison Storage Battery Division, Thomas A. Edison, Inc., has been appointed New York district mana-

J. D. Kelsey, administrative assistant to the president, Standard Railway Equipment Manufacturing Company, has been elected vice-president.

James A. King has been appointed vicepresident, Marquette Railway Supply Company and Murry Supply Company, to handle sale of their products to Chicago railroads, carbuilders and industries.

Union Switch & Signal-Division of Westinghouse Air Brake Company has announced that the research and engineering department has been redesignated the research department, and has made the following personnel changes: H. L. Ludwig, from assistant manager, railway engineering de-partment, to assistant to vice-president for research and engineering; C. W. Bell, from manager, project engineering group, to manager railway project engineering de-partment; and H. G. Blosser, from manager, equipment engineering group, to manager, railway equipment engineering department. C. E. Lone, supervisor, service publications, has been named assistant manager, advertising and publicity.

John M. Pelikan, who recently resigned as vice-president of Union Switch & Signal Division—Westinghouse Air Brake Company, has been appointed president of Transcon-trol Corporation, Port Washington, N.Y., a company which will engineer and sell railway signal apparatus and signal sys-tems. Mr. Pelikan has been associated with the design and sale of CTC systems since their inception, and has 35 patents issued in his name.

Paul Garrett, vice-president of General Motors Corporation at New York, retired December 31.

The sales headquarters of the Spring Division of Crucible Steel Company of America have been moved from New York



H. L. Ludwig



H. G. Blosser





J. M. Pelikan

to Pittsburgh. Concurrently, W. K. Krepps has been appointed assistant to the general manager of the division, and Richard C. Lawson, sales manager. Mr. Krepps, forlawson, sales manager. Mr. Krepps, for-merly sales manager, will continue in New York. Mr. Lawson, who was assistant sales manager, will have offices in Pitts-

OBITUARY

Eugene F. Auth, 49, western manager of General Railway Signal Company, died at his home in Deerfield, Ill., December 17.

R. C. O'Connor, 60, president of Superior Hand Brake Company, Dundee, Ill., died December 20.

Financial

Applications

ATLANTIC COAST LINE.—To assume liability for \$5,115,000 of equipment trust certificates to finance in part the acquisition of 500 box cars from ACF Industries, Inc., or an estimated unit cost of \$12,816. The certificates would mature in 15 annual installments of \$341,000 each, beginning January 1, 1958. They would be sold by competitive bids which would fix the interest rate.

NEW YORK CENTRAL.—To pledge \$6,000,000 of New York Central & Hudson River 31/2/96 mortgage bonds as partial collateral under conditional sales agreements to be entered into in connection with acquisition of the equipment listed below.

		Init Cos
700	70-ton, self-clearing hopper cars	
	(Greenville Steel Car Company)	7,550
410	70-ton, self-clearing hopper cars	
	(Pullman-Standard Car Manufac-	
	turing Company)	8,300
1,000	70-ton, self-clearing hopper cars	
	(Despatch Shops)	6,500
	box cars (Despatch)	8,200
435	box cars with guto loaders	
	(Despatch)	11,900

The conditional sales agreements would provide for payment in 20 semiannual installments beginning July 1, 1957, and interest of 4½% on unpaid balances.

on unpaid balances.

NORFOLK & WESTERN.—To assume liability for \$4.650,000 of equipment trust certificates, first installment of a proposed \$14,160,000 issue, the whole of which would finance in part the acquisition of 98 diesel-electric locamotives at an estimated total cost of \$18,909,000. Seventy-eight locomotives, of 1,750-hp each, would be acquired from the Electro-Motive Division, General Motors Corporation, at estimated unit costs ranging from \$186,000 to \$197,000; 20 of 1,800-hp each would be acquired from Alco Products Inc., at an estimated unit cost of \$195,000. The financing now-proposed would cover 33 of the EMD locomotives which are expected to cost a total of \$6,204,000. The certificates would mature in \$100,000 and \$100,0

NORTHERN PACIFIC.—To assume liability for \$7,740,000 of equipment trust certificates to finance in part the equipment listed below,

which is expected to cost a total of \$9,685,530.

which is expected to cost a total of \$9,083,030, Lescription and Builder
20 1,750-hp diesel-electric road switching locomotives (Electro-Motive Division, General Motors Corporation)\$189,410
21 1,750-hp diesel-electric road switching locomotives (Electro-Motive) . 189,910
31 1,750-hp diesel-electric passenger locomotives (Electric-Motive) . 209,360
21,200-hp switching locomotives (Electro-Motive) . 130,250
21,200-hp switching locomotives (Electro-Motive) . 125,780
11,200-hp switching locomotive (Electro-Motive) . 131,270
tro-Motive) . 131,270
200 are cars (Northern Pacific shops) 100 covered hopper cars (Pullman-Standard Car Monufacturing Company) . 8,310
The certificates would mature in 15 annual

The certificates would mature in 15 annual installments of \$516,000 each, beginning January 17, 1958. They would be sold by competitive bids which would fix the interest rate.

PITTSBURGH & LAKE ERIE.—To assume liability for \$6,720,000 of equipment trust certificates to finance in part the acquisition of 1,000 hopper cars from Bethlehem Steel Company, Estimated unit cost of the cars is \$8,400, the estimated total cost being \$8,400,000. The certificates would mature in 15 annual installments of \$448,000 each, beginning February 15, 1958. They would be sold by competitive bids which would fix the interest rate.

SOUTHERN.-To assume liability for \$11,080,-SOUTHERN.—To assume liability for \$11,080,000 of equipment trust certificates to finance in part the acquisition of 1,353 freight cars from Pullman-Standard Car Manufacturing Company at an estimated total cost of \$13,850,000, Included would be 1,050 box cars at an estimated unit cost of \$10,200; 200 hopper ears at \$8,000; and 103 auto-parts cars at \$14,952. The certificates would mature in 20 semanual installments, beginning July 15, 1957. They would be sold by competitive bids which would fix the interest rate.

SOUTHERN PACIFIC.—To assume liability for \$9,600,000 of equipment trust certificates to finance in part the equipment listed below which is expected to cost a total of \$12,000,683.

	Description Es	timated
	and Builder U	nit Cost
27	1,750-hp diesel-electric freight lo- comotives (Electrio-Motive Division,	
	General Motors Corporation)\$	188,907
6	1.200-hp diesel-electric switchers	
	(Électro-Motive)	130,792
244	covered hopper cars (Southern Pa-	
	cific shops)	8.328
123	box cars, insulated and equipped	
	with DF loaders (SP shops)	12,662
100	box cars, insulated and compart-	
	mentalized (SP shops)	13,245
50	box cars equipped with DF loaders	,
	(SP shops)	10.523
42	flat cars for piggy-back service (SP	,

The certificates would mature in 15 annual installments of \$640,000 each, beginning January 1, 1958. They would be sold by competitive bids which would fix the interest rate.

WABASH.—To assume liability for \$3,780,000 of equipment trust certificates, first installment of a proposed \$10,395,000 issue, the whole of which would finance in part the acquisition of 1,400 freight cars.

	Description and Builder	Estimated Unit Cost
500	box cars (General American Tran	S-
	portation Corporation)	. \$ 9.683
400	box cars (ACF Industries)	8,359
	box cars (General American)	
	box cars (General American)	
	box cars (General American)	
	gondola cars (Bethlehem Steel Con	
100	gondoid care (pointainem dicer con	0.014

pany) 7,000

Total cost of the equipment is estimated at \$13,045,374. The certificates would mature in 15 annual installments beginning January 15, 1958. They would be sold by competitive bids which would fix the interest rate.

Dividends Declared

CAROLINA, CLINCHFIELD & OHIO.—\$1.25, quarterly, payable January 19 to holders of record January 10.

DAYTON & MICHIGAN.—8% preferred, \$1, quarterly, paid January 1 to holders of record December 14.

DETROIT & MACKINAC.—5% non-cumulative preferred, \$5, payable January 15 to holders of ecord January 4.

NORFOLK & WESTERN.—4% adjustment pre-ferred, 25c, quarterly, payable February 8 to holders of record January 17.

READING.-50c, quarterly, payable February 14 to holders of record January 17.

WISCONSIN CENTRAL.—\$2, payable January

People in the News

ASSOCIATION OF AMERICAN RAILROADS.—Arthur L. Essmon, chief signal engineer—system, Burlington Lines, named 1957 chairman, Signal Section, succeeding Erving N. Fox, engineer of signals and telegraph, Boston & Maine. Mr. Fox continues as a member of the section's committee of direction. Winfield G. Scilmonson, assistant chief engineer—signals, Pennsylvania, chosen first vice-chairman, and Henry T. Fleisher, assistant chief engineer communications and signals, Chicago & North Western and Chicago, St. Paul, Minneapolis & Omaha, named second vice-chairman. Elected to the committee of direction for four years are: William W. Beard, and Joeph R. Depriest, superintendent of communications and signals, Seaboard.

BALTIMORE & OHIO—BALTIMORE & OHIO CHICAGO TERMINAL.—Clark K. Strader, superintendent. B&OCT, Chicago, appointed general manager of that road and of the Chicago Terminal region, B&O.

CANADIAN NATIONAL.—Charles R. Harris, assistant to director of public relations, Montreal, appointed assistant director of public relations. A. L. Sauviet, who has been an assistant director since 1954, will continue in that capacity, specializing in the planning and supervision of the road's advertising and display programs.

advertising and display programs.

Rupert C. Macklin appointed superintendent dockyard, St. John's, Nfld., succeeding Robert Thompson, retired (Railway Age. Dec. 24, 1956, p. 37). J. W. Noel named assistant superintendent dockyard, St. Lohn's

T. A. B. McElmon, assistant superintendent, Bishop's Falls, Nfld., transferred to Edmundston division, at Edmundston, N.B.

CANADIAN PACIFIC.—F. V. Stone, manager, department of research, Montreal, appointed assistant to president, assigned to special duties. R. C. Burnstead, assistant manager, department of research, succeeds Mr. Stone as manager of that department.

H. E. Allan, general locomotive foreman, Alyth, Alta., appointed division master mechanic at Moose Jaw, Sask., succeeding Roy W. Wilson, retired.

D. B. Wallace, assistant manager, department of public relations. Montreal, appointed manager of that department, succeeding J. E. March, retired.

Thomas W. Creighton, district engineer, Vancouver, B.C., appointed assistant engineer maintenance of way, Toronto, Ont. James Cherrington, assistant district engineer, Vancouver, succeeds Mr. Creighton as district engineer there.

FORT WORTH & DENVER.—Roy H. Kimble appointed general passenger agent, Fort Worth, Tex., succeeding Robert L. Hoyt, re-



Clark K. Strader B&O-B&OCT



Harry B. Nordstrom GN



E. L. Anderson Frisco



B. H. Crosland Frisco

signed to devote his time to private business.

FRISCO.—C. P. King, vice-president-personnel and L. B. Clary, assistant vice-president-operation, retired December 31. Mr. Clary's successor is E. L. Anderson, chief engineer, who in turn is replaced by B. H. Crosland, chief engineer maintenance of way.

R. E. Callett, assistant division engineer,

R. E. Catlett, assistant division engineer, Chaffee, Mo., named division engineer, with jurisdiction including Fort Worth subdivision (St. Louis—San Francisco & Texas) and Sherman subdivisions of Southwestern division, at Fort Worth, Tex.

GEORGIA & FLORIDA.—Stewart B. Austin, engineer maintenance of way and structures, Augusta, Ga., appointed chief engineer. F. B. Ahouse, principal assistant engineer, named engineer maintenance of way.

GREAT NORTHERN.—Harry B. Nordstrom, purchasing agent, St. Paul, appointed director of purchases there, to succeed Arthur N. Crenshaw, who retired December 31.

GULF, COLORADO & SANTA FE. — E. E. Baker appointed superintendent, Southern division, Temple, Tex., Lawrence Cena, trainmaster, Temple, Tex., has exchanged positions with A. N. Wade, trainmaster, Brownwood, Tex.

ILLINOIS CENTRAL.—Simon E. Ramage appointed district passenger agent, Memphis, Tenn., succeeding Paul C. Buchanan, retired.

INTERSTATE COMMERCE COMMISSION.—Wilbur J. Barnes, supervising mechanical engineer, Bureau of Safety and Service, ICC, retired from that post to enter practice as an engineering consultant in Washington, in association with his son, Richard W. Barnes, an attorney.

KANSAS CITY SOUTHERN.—Roland R. Feickert, general agent, St. Louis, and D. S. Lambeth, general agent, Pittsburgh, retires February 1.

LACKAWANNA.—James G. Cunningham, assistant secretary and assistant treasurer, appointed secretary and treasurer, New York, succeeding John G. Enderlin, retired. Charles L. Nicholl, assistant treasurer, named assistant secretary and assistant treasurer.

F. F. Pawlitz, storekeeper, Scranton general store, appointed general storekeeper, Scranton, Pa. G. M. O'Brien, stationery storekeeper, named assistant to general storekeeper. Scranton.

LAKE TERMINAL.—E. Lynn Schafer appointed superintendent car service and freight agent, succeeding George E. Johnson, retired. LEHIGH VALLEY.—Harry A. Wistrich, assistant chief engineer—construction and maintenance, Bethlehem, Pa., promoted to chief engineer—construction and maintenance, succeeding Rolph E. Patterson, who retired December 31. 1956. Harry F. Reilly, engineer maintenance of way, promoted to assistant chief engineer.

George H. Emery, superintendent—marine department, Jersey City, retired and his duties assumed by Peter J. Ellis, manager, lighterage and stations, New York Harbor, with the title of manager of lighterage and marine service, New York and Jersey City. Robert F. Reony, agent at Pier 8, North River, New York, appointed lighterage agent.

LOUISVILLE & NASHVILLE—William H. Kendall, assistant to the president, Louisville, Ky., elected vice-president and general manager there, to succeed Rolla C. Parsons, retired.

Joseph J. Lenihan, general attorney, Louisville, appointed general solicitor, succeeding H. T. Lively, retired. H. W. Willen appointed senior general attorney; Sam V. Scott, general attorney; Elbert R. Leigh, commerce attorney; J. F. Wheeler, assistant general attorney; Milton H. Smith II, assistant general attorney; J. W. Hoeland, assistant to general solicitor; P. M. Lanier, assistant to general solicitor, and John F. Smith, Jr., attorney.

W. B. Kuersteiner, associate bridge engineer, Louisville, appointed senior associate bridge engineer and John U. Estes named associate bridge engineer. Phillips R. Eastes, assistant bridge inspector, appointed assistant bridge engineer.

MILWAUKEE.—R. E. Bock, trainmaster, Othello, Wash., named trainmaster, Idaho division, Spokane, Wash., to succeed F. A. Burton, transferred to the Terre Haute division, Terre Haute, Ind. H. J. Mahoney, trainmaster, Chicago Terminals, Bensenville, Ill., transferred to the Milwaukee Terminals, Milwaukee, Wis.

MISSOURI PACIFIC.—William R. Sugg, mechanical superintendent, Western district, Kansas City, Mo., retired December 31.

J. T. Schoener appointed assistant engi-



William H. Kendall L&N



Joseph J. Lenihan L&N



W. B. Kuersteiner L&N



John U. Estes L&N

neer of structures, St. Louis, Mo., succeeding J. H. Shieber, retired.

MISSOURI-KANSAS-TEXAS.—Hudson F. Biery, industrial agent, Dallas, Tex., named resident industrial agent in charge of the newly established industrial development office, San Antonio.

Fred L. Cring, assistant general passenger agent, Dallas, appointed general passenger agent there, succeeding George M. Wagner, retired. Mr. Cring's successor is Jess W. Cole, division passenger sales manager, St. Louis, Mo., who in turn is replaced by H. C. Kuhlert, division freight sales representative, St. Louis.

MONON.—John B. Goodrich appointed general solicitor, Chicago, in addition to his present responsibilities as assistant secretary of the corporation.

NORFOLK & WESTERN.—C. P. Blair, general superintendent, Western General division, Bluefield, W.Va., appointed to new position of assistant general manager, Roanoke. William A. Noell, superintendent, Norfolk division, succeeds Mr. Blair as general superintendent at Bluefield. W. S. Clement, Pocahontas division trainmaster who served last year as temporary head of the Norfolk division, appointed superintendent of the latter division at Crewe, Va. M. E. Bowman, assistant superintendent, Pocahontas division, named assistant superintendent and trainmaster of that division.

D. J. Howe, assistant to general coal traffic manager, appointed to new position of coal traffic manager, Eastern district at Roanoke, with jurisdiction over coal bureaus at Boston, Roanoke and Winston-Salem. F. L. Donoher, district manager, coal bureau, Detroit, Mich., advanced to new position of coal traffic manager, Western district at Roanoke, with jurisdiction over coal bureaus in Chicago, Cincinnati, Cleveland, Detroit and St. Louis. Alvin Johnson, assistant district manager, Cincinnati Coal Bureau, promoted to district manager, Detroit Coal bureau, succeeding Mr. Donaher. Mr. Howe's former position abolished.

The Kansas City, Mo., office of the N&W, formerly at 422 Railway Exchange Building, is now at 432 Board of Trade Building, V.A. Gordner, general agent.

RAILWAY PROGRESS INSTITUTE. — Charles L. Heater, vice-president of American Steel Foundries, Chicago, named 1957 vice-chairman of the institute.

ROSCOE, SNYDER & PACIFIC.—E.G. Stofford, Jr., appointed vice-president and assistant general manager, Roscoe, Tex. Leo S. Johnson and B.L. Dietermon appointed general agents at Chicago and Fort Worth, Tex., respectively.

RUTLAND.—Gardner A. Caverly, president, will resign, effective February 1, to become executive vice-president at Boston of the New England Council, an association of people and companies concerned with improving and expanding the six-state region's business picture.

SANTA FE.-R. M. Champion appointed acting superintendent, Albuquerque division, Winslow, Ariz., succeeding O. R. Hammit. on leave of absence.

Hammit, on leave of absence.

W. E. Brack, trainmaster, Los Angeles, appointed superintendent of transportation, Chicago. Mr. Brack's successor is C. E. Rollins, assistant to superintendent of transportation, Chicago, who in turn is replaced by W. F. Poton, traveling car agent, Amarillo, Tex. C. F. Stanford, chief clerk, transportation department, Chicago, named assistant to superintendent of transportation there.

on there.

L.C. Hudson, assistant general freight

agent, Los Angeles, appointed general freight agent, Chicago, succeeding the late G. J. Sirois (Railway Age, Nov. 19, 1956, p. 40). H.F. Pugh, division freight agent, Colorado Springs, Colo., named general agent, Washington, D. C., to replace the late J. C. Patham.

SOUTHERN.—Herbert D. Minnis appointed assistant general freight and passenger agent, High Point, N.C. Jack H. Reyburn, commercial agent, appointed district freight and passenger agent, Lexington, Ky., succeeding William W. Hawerly, retired. John H. Blair appointed general agent, freight and passenger departments, Boston, succeeding Roland A. Davis, who died November 23, 1956.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS. — Elwood Davis appointed vice-president and general manager.

TEXAS & PACIFIC.—W. C. Foster, superintendent, Eastern division, Fort Worth, Tex., appointed general superintendent transportation, Dallas, to succeed H. C. Remington, who retired Janary 1. Mr. Foster's successor is J. G. Tucker, superintendent, cousiana division, Alexandria, La., who in turn is replaced by K. D. Hestes, assistant superintendent, Eastern division, Fort Worth. R. G. Brill, trainmaster, Mineola, Tex., named to succeed Mr. Hestes, and in turn is replaced by C. Percy, Jr., transferred from Marshall, Tex. L. M. Hill replaces Mr. Percy. L. B. Griffin, assistant superintendent, Big Spring, Tex., advanced to general yardmaster, Fort Worth-Lancaster Yard, succeeding W. D. Kemp, relieved because of ill health. G. W. Stone, trainmaster, Western division, Big Spring, replaces Mr. Griffin, and in turn is succeeded by C. S. Boldwin, transferred from the Louisiana division, Alexandria. R. E. Grøy named trainmaster, Louisiana division, Shreveport, La., replacing K. E. Bonks, transferred to Alexandria to replace Mr. Baldwin.

UNION PACIFIC.—A. D. Hunson, general manager of the South-Central district. Salt Lake City, named to the newly created position of general manager-labor relations. Omaha, Neb. Mr. Hanson's successor is G. A. Cunninghom, general superintendent. Cheyenne, Wyo., who in turn is replaced by C. H. Burnett, superintendent, Nebraska division, Omaha. W. E. Ross, assistant superintendent, Nebraska division, Omaha. W. E. Ross, assistant superintendent, Nebraska division, rainmaster, Laramie, Wyo. R. W. Holland, assistant superintendent of safety and courtesy, Wyoming division, Cheyenne, succeeds Mr. Anderson.

Earle G. Reed, general livestock agent, Omaha, retired December 31. Joe W. Jarvis, supervisor of agricultural development, appointed supervisor of livestock and agriculture. Omaha.

Traffic managers appointed: H. C. Yerger,



K. D. Hestes T&P



W. C. Foster

Chicago; Theodore L. Vogel, New York; Som Reinhardt, Kansas City; Robert F. Pettigrew, Salt Lake City; Arthur H. Genge, Boise, Idaho, and Joseph C. Beaumont, Omaha, Neb. Harold N. Tinker named assistant freight traffic manager, Omaha; James R. Henderson appointed foreign freight traffic manager, Chicago, and D. R. Alexander named director of sales relations, Omaha. General freight and passenger agents appointed: Alon B. Taylor, Denver; Louis G. Stohl, New York; Robert C. Dargy, Kansas City, and Rhees Fife, Salt Lake City. N. E. Luthi and Carl H. Soltmarsh appointed general passenger agents at Los Angeles and Portland, respectively. Frank E. Greene named general freight agent (divisions), Omaha, and John C. Stromberg appointed assistant general freight agent, Portland. General traffic agents appointed: Robert D. Toomey, Medford, Ore.; Reid T. Griffin, Salt Lake City; Horry M. Bock, Kansas City; Edmund R. A. Siemers, Denver; Leo J. McKernen, New York; Charles G. Dankmyer, Washington, D.C., and Stanley A. Fredeen, Aberdeen, Wash. Retirements: Richard E. Drummy, freight

1

Retirements: Richard E. Drummy, freight traffic manager and Carl C. Beach, assistant freight traffic manager, Omaha: Horry L. Lauby, Eastern traffic manager, New York; Fred Lingenfelder, general passenger agent, Portland; Kay L. Johnson, general agent, Boise, Idaho, and Charles H. Jacka, general agent, Aberdeen.

VIRGINIAN.—W.W. Osborne, assistant superintendent motive power, Princeton, W.Va., appointed superintendent motive power there, succeeding L.C. Kirkhuff, retired. W.A. Grigg, master mechanic, Victoria, Va., succeeds Mr. Osborne as assistant superintendent motive power at Princeton. R.R. McDoniel, general foreman, Mullens, W.Va., succeeds Mr. Grigg as master mechanic, Norfolk division, at Victoria.

WABASH.—Vincent G. Berdolt appointed Eastern traffic manager, New York, succeeding Walter McCrackan, retired. John F. Dowd appointed general agent, freight department, Indianapolis, Ind., succeeding C. E. Alwes, deceased.

WESTERN PACIFIC.—Fred A. Tegeler, assistant engineer (special projects), San Francisco, appointed budget officer.

OBITUARY

Frank H. Allard, 73, retired assistant to vice-president of the Milwaukee, died December 25 at Chicago.

Bernard J. Fallon, 76, retired president of the Chicago North Shore & Milwaukee, died December 24 at Chicago.

T. H. Steffens, president of the Sand Springs Railway and Southwestern regional vice-president of the American Short Line Railroad Association, died December 19.

C. William Bergstrom, 69, retired assistant general auditor of the Pullman Company, died December 27 at Chicago.

James T. Gillick, 86, retired vice-president, operations, and director of the Milwaukee, died December 29 at Chicago.

Robert B. Tunstall, 76, former vice-president and general counsel of the Chesspeake & Ohio, died December 30, 1956, at Norfolk, Va., after a long illness.

Lawrence Chaffee, 48, who resigned last February as general attorney of the Long Island at New York, died December 22, 1956.



This is the thirteenth in a series of advertisements about the people of Standard.

Man-about-the-Railroads of the Southeast ...and hereditary expert on the Old West

That's Jack Earp pictured above.

His interest in the West stems from his relationship to the famous Wyatt of the same name. And you can be sure Jack's young son always knows who he's going to be when playing Wild West games.

On the job for Standard, Jack serves the railroads of the Southeast. To them he sells Standard's products—sells by making certain

his customers get the high quality in products and service that are a Standard tradition.

Holding up this service tradition is the job of all members of the Standard team. That's why you can always be sure of careful attention for your order, whether it's for one car or hundreds—whether it's for new car parts or replacement on present equipment.



Improved Dreadnaught Ends



Diagonal Panel Roofs

E I O

Standard RAILWAY EQUIPMENT MANUFACTURING COMPANY

General Office: 4527 Columbia Ave., Hammond, Ind. • New York • Chicago • St. Paul • San Francisco Standard Railway Equipment Manufacturing Company, (Canada) Ltd. Sun Life Building, Montreal 9 out of 10 house cars now in operation on America's railroads are equipped with Standard Ends and Roofs. 0

Freight Operating Statistics of Large Railways-Selected Items

				Locomotiv	e Miles	Car !	Miles	Ton-miles	(thousands)	Road-locos	on line	08
	Region, Road and Year	Miles of	Train	Principal and		Loaded (thou-	Per	Gross excl.locos	Net	Ser	viceable		Per cent
		operated	miles	helper	Light	sands)	loaded	& tenders	non-rev.		red Stored	B.O.	B.O.
M	Boston & Maine	1,561 1,563	247,639 263,847	254,129 270,662	11,157 12,289	9,972 10,527	67.2 70.0	651,909 660,736	275,243 283,004	68 69		1	1.4
Z:	E N. Y., N. H. & Hud 1955	1,740 3,746	272,201 270,088	272,201 270,207	18,864 19,209	11,907 11,126	68.3 70.3	749,897 676,846	314,351 288,799	91 100		11.	10.8 7.4
	Delaware & Hudson	771 792	187,691	193,238	7,034	10,520	72.3	725,401	389,794	34		7	17.1 12.8
	Del., Lack. & Western	962 1962	193,662 302,646	200,527 313,067	7,883 25,814	11,315 13,369	73.6 70.3	757,878 866,954	408,982 385,349	33 62	1	5	1.6
0.0	Erie1956	2,211	308,597 657,723	321,406 665,163	20,097 23,020	14,502 36,755	73.7 67.6	$944,700 \\ 2,322,360$	414,142 936,129	169		2	1.2
Region	Grand Trunk Western1955	4.951	644,986 280,870	651,213 290,066	26,188 1,987	37,236 9,169	71.0 61.3	2,263,709 656,926	923,184 274,982	165	* *	3 18	1.8 25.0
E .	Lehigh Valley	1,135	270,330 235,754	275,804 239,428	2,146 6,478	9,018 11,222	62.4	633,938 781,978	255,458 368,711	59 32		14	19.2 5.9
Lak	New York Central 1956	1,137 10,565	226,598 2,449,351		8,187 115,112	11,625 103,259	67.7	806,195 7,552,297	386,337 3,443,645	33 546	4	3 58	8.3 9.5
ireat	New York, Chic. & St. L 10°5	2,155	2,669,301 767,050	2,717,637 787,071	120,092 9,133	112,425 33,529	63.7	7,903,708	3,584,173 1,107,434	594 179	1	109	15.5 11.3
5	Pitts. & Lake Erie	2,154 221	780,908 65,465	802,274 65,465	6,702	34,105 3,076	68.2 70.2		1,079,754 163,966	182	2	12	6.1
	Wabash	221 2,381	67,367 563,010	68,319 564,295	6,387	2,804 25,653	70.3 66.7	234,537 1,695,905	146,738 689,396	111		2	1.8
	1955	2,381 5,910	601,150	602,644	6,991	27,935	67.5	1,794,545	708,873	105			
	Baltimore & Ohio	6,072	1,704,940	1,879,910 1,887,731	172,109 171,830	69,185 70,014	64.1 65.6	5,551,257 5,415,514	2,694,110	470 442	19	88 93	15.3 17.3
Region	Bessemer & Lake Erie	1 208 208	72,683 65,048	77,132 70,766	211 222	3,872 3,387	56.9 60.1	467,947 407,653	296,207 265,162	16 16			
	Central RR Co. of New Jersey .1956 1955	612	134,191 127,829	135,451 128,896	7,642 6,544	5,323 4,989	65.7 68.8	410,585 361,898	218,819 191,624	66		2	2.9
Eastern	Chicago & Eastern III1956 1955	868 868	124,130 123,097	124,130 123,097	2,885 2,357	5,720 5,363	66.6	421,620 371,089	212,620 181,902	29 27	**	3	6.5 10.0
Eas	Elgin, Joliet & Eastern	236 236	96,657 91,789	97,204 92,090		3,072 3,313	62.6	255,139 232,911	139,087 127,076	38		2 3	5.0 7.5
Tes	Pennsylvania System1956	9,892 9,892	3,241,325 3,247,630	3,469,484	272,923 264,613	140,361 142,888	68.5	10,203,496		923 878	3	253 401	21.5 31.1
Central	Reading	1,303 1,303	371,780 356,532	374,163 358,659	14,240 15,029	14,607 14,319	66.6	1,172,599	648,285 619,903	162 160	10	17 38	9.0 19.2
	Western Maryland	1 846 846	175,536	183,120	10,745	7,310 7,480	64.3	1,127,401 611,576	350,122	44	**		1.7.2
	& g (Chempeake & Ohio 1956	5,067	177,678 1,652,933	184,834 1,675,085	10,372 46,451	73,858	65.5 56.5	615,394	351,599 3,750,960	37 539	23	88	13.5
800	Norfolk & Western 1955 1956 1955	5,041 2,110	1,604,494 800,765	1,638,173 873,058	48,258 79,030	72,803 40,613	58.2 58.8	6,376,971 3 3,856,544	3,629,786 2,149,310	438 218	5	111	20.2 7.1
<u>a</u> ,		2,104 5,283	784,089 811,606	839,814 #811,606	72,485 9,289	38,982 25,064	59.1 59.5	3,624,931 2 1,905,730	2,007,618 873,604	224 157	13	24	9.2 5.4
	1955	5,278	795,535	1795,541	9,210	25,644	60.6	1,875,028	878,108	234		7	2.9
	Central of Georgia	1,731 1,731	215,233 200,305	1215,233 200,331	2,178 1,966	8,593 8,524	67.0 68.2	614,625 591,131	300,934 288,648	76 79		5 2	6.2 2.5
Region	Gulf, Mobile & Ohio	2,717 2,717	285,448 280,604	285,448 280,604	222 225	16,983 16,458	70.7 71.8	1,146,233 1,094,859	565,337 533,463	79 86		12	13.2 5.5
Rei	Illinois Central1956 1955	6,503 6,531	1,295,358 1,298,754	1,297,190	37,325 39,843	55,515 57,316	63.4	4,107,759 1		326 328	16	160	17.0 31.7
ern	Louisville & Nashville 1956 1955	4,714	935,463 929,586	939,240 942,256	16,384 18,548	35,607 35,174	61.7	2,726,962 1		169 185	19	13 21	6.5
Southern	Nash., Chatt. & St. Louis 1956 1955	1,043 1,043	174,292 178,595	178,591 182,459	3,605 3,978	5,521 6,204	67.3 71.6	375,330 404,585	176,261 195,068	46		7	13.2
ď	Seaboard Air Line1956	4,051 4,053	624,178 607,537	624,178 607,537	480 1,350	24,364 24,798	63.4 65.3	1,774,463 1,771,355	824,771 833,777	141 136		8 10	5.4
	Southern	6,259 6,264	924,009	924,089 951,425	12,584 13,282	45,025	68.1 70.3	2,966,670	1,391,634	157 285	9	11 5	5.3 1.7
	Chicago & North Western 1956	7,760	951,355 754,796	756,067	7,285	47,424 33,379	66.6	3,025,952 1 2,337,260 1	1,018,059	145	5	9	5.7
	Chicago Great Western1956	7,810 1,437	838,115 140,332	840,019 140,332	10,469 210	37,777 8,924	66.7 71.3	2,552,717 1 597,883	1,133,310 286,036	57 30	13	29	6.3
Region	Chic., Milw., St. P. & Pac 1956	1,437 10,621	141,591 1,052,446	141,591 1,070,546	19,555	8,913 48,743	70.7 65.3	589,015 3,293,143	274,208 1,471,833	32 295	i	14	3.0 4.5
	Chic., St. P., Minn. & Omaha . 1956	10,633 1,606		1,175,563 158,280	25,176 2,909	53,823 5,583	67.8	3,586,695 1 376,695		300	32	24	6.7
estern	Duluth, Missabe & Iron Range 1956	1,606	169,039 170,217	170,468 171,734	4,718	6,171 7,956	72.5 50.7	414,398 859,740	189,106 516,227	59 60		13 10	18.1
WCB	Great Northern	569 8,274	159,015 1,308,794	159,841	1,520 37,673	7,249 58,559	50.7 66.7	782,513 4,282,093 2	473,274	64 278	34	6 23	8.6
Northw	1955 Minneap., St. P. & S. Ste. M 1956	8,271	1,327,949	1,335,717	40,601 1,589	55,994 16,297	67.0 69.1	4,107,239 2 1,097,576		286	56	27	7.3 5.5
ž	1955	4,171 4,171	429,901 430,818	431,490 433,330	3,035	15,433	68.6	1,039,415	507,577	84	9	2	2.1
	1955	6,569 6,570	871,230 937,355	886,565 955,273	23,497 24,640	37,963 40,875	70.0 70.2	2,524,830 1 2,767,313 1	,298,264	213 275	56 27	42 57	13.5 15.9
00	Atch., Top. & S. Fe (incl. 1956 G. C. & S. F. and P. & S. F.) . 1955	13,124 13,097	2,613,950	2,658,407 2,722,805	52,058 70,950	120,975 $123,620$	65.0 66.7	8,047,586 3 8,105,555 3	3,104,686	562 522	48 84	58 32	8.7 5.0
100	Chic., Burl. & Quincy	8,765 8,773	1,261,398	1,256,510 $1,300,551$	32,984 35,824	57,479 59,025	67.2 70.1	3,774,935 1 3,739,416 1	,636,080 ,629,150	207 242	10	29 31	11.8 11.0
E	Chic., Rock I. & Pac	7,580 7,904	987,820 868,402	981,875 865,916	1,839 1,101	39,683 36,450	65.3 67.0	2,768,682 1 2,512,114 1		169 167	3	6 5	3.4
estern	Denver & R. G. Wn	2,155 2,165	364,602 381,674	392,079 412,163	1,101 37,597 44,975	18,284 19,075	73.6 72.1	1,206,183 1,258,485	575,400 592,808	83 74	7 9	5 22	5.3 21.0
3	Southern Pacific	8,044	2,352,169		149,591 202,881	108,602 111,121	63.6 65.5	7,452,523 2 7,486,598 3	2,993,431	683 668	74 17	58 89	7.1 11.5
Central	Union Pacific	8,068 9,797	2,629,252	2,692,007	106,371	123,032	66.6	8,081,992 3	3,321,300	461 490	14	96	16.8
Cen	Western Pacific	1,190	273,980	2,928,632 294,145	121,894	131,014	68.2 73.4	8,361,659 3 829,865	374,269	49	42	114	17.6
	Kansas City Southern1956	1,190 886	317,056 142,066	326,538 142,066	11,776 91	15,794 8,355	73.2 67.9	998,086 593,376	453,586 269,809	48 24	• •	2	7.7
	Louisiana & Arkansas1955	886 746	159,738 99,817	159,886 99,817	250 268	9,232 4,561	69.3 63.1	647,172 358,437	296,433 167,270	27 18		3	10.0
COL	1955 MoKansTexas Lines1956	753 3,230	111,424 359,505	111,424 359,505	372 3,768	4,967 15,485	68.0 62.3	372,096 1,040,753	178,349 444,398	17 86		**	* *
Region	Missouri Pacific	3,230 9,653	343,078 1,290,217	343,078	3,632 11,306	15,611 57,610	68.3 65.1	990,473	433,411 1,857,406	87 349		24	6.4
E)	1933	9,702	1,336,579 282,900	1,336,579 282,900	11,737 4,453	61,172 14,580	67.2 65.0	4,174,359 1 1,042,193	,918,889 423,053	336 59	36	33	8.1 1.7
este	Texas & Pacific	1,822 1,822	329,382 699,707	329,382 699,707	3,516	16,239 27,397	66.7	1,130,659	449,152	61		1	1.6
Southwestern	St. Louis-San Francisco1956 1955	4,573 4,573	625,509	625,509	6,599 5,928	27.097	65.8	1,868,807 1,792,044	850,511 801,475	115		11 7	9.6 5.7
Sou	St. Louis Southw. Lines1956 1955	1,554 1,554	335,237 329,267	335,249 329,291	1,606 1,544	15,791 16,191	72.1 76.5	989,897 969,921	442,498 433,568	56 55		9	1.8
	Texas & New Orleans1956 1955	4,285 4,302	694,309 733,090	694,309 733,090	2,994 3,496	28,710 29,657	64.5	1,988,400 1,997,012	884,559 903,488	155 142	* *	3 2	1.9
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For the month of October 1956 Compared with October 1955

			Freight ca	rs on line		G.t.m.per	G.t.m.per	Net	Net ton-mi.	Net ton-mi.	Car-	Net daily	Train-	Miles
	Region, Road and Year				Per Cent	excl.locos	train-mi. excl.locos and	per train-	per l'd	per car-	per car-	ton-mi.	per train-	loco.
		Home	Foreign	Total	B.O.	tenders	tenders	mile	mile	day	day	road-mi.	hour	day
1	Boston & Maine 1956	1,427	9,467 $10,525$	10,894 $12,246$	2.1 3.8	$38,746 \\ 38,710$	2,644 2,523	1,116 1,081	27.6 26.9	831 802	44.8 42.6	5,688 5,841	14.7 15.5	143.0 148.9
Ž	N. Y., N. H. & Htfd 1956 1955 1956 1956	2,286 1,848	14,876 22,455	17,162 24,303	3.2	41,959 36,636	2,755 2,506	1,155 1,069	26.4 26.0	582 418	32.3 22.9	5,828 5,336	15.2 14.6	119.0 108.0
	Delaware & Hudson	1,363 3,176	6,984 6,002	8,347 9,178	6.7	64,543 65,396	3,883 3,930	2,087 2,121	37.1 36.1	1,573	58.7 55.5	16,309 16,658	16.7 16.7	177.8 182.9
	Del., Lack. & Western1956	3,234 3,122	11,521 12,896	14,755 16,018	2.5	50,422 52,373	2,919 3,125	1,298 1,370	28.8 28.6	832 830	41.1	12,922 13,887	17.6	192.2 190.2
nc	Erie1955	5,277	22,556 22,086	27,833	2.4	70,644	3,570	1,439	25.5	1,103	64.0 59.4	13,658 13,390	20.0	143.5 144.9
Region	Grand Trunk Western1956	6,997 3,916	9,777	29,083 13,693	3.4 8.1	66,760 50,220	3,541 2,361	1,444 988	24.8 30.0	1,045	36.4	9,327	21.5	139.0 135.1
	Lehigh Valley1955	$3,748 \\ 3,984$	10,097 10,656	13,845 $14,640$	8.1	49,818 70,126	2,363 3,361	952 1,585	28.3 32.9	592 820	33.5 37.6	8,656 10,479	21.1	252,2 238,7
Lakes	New York Central1955	6,905 45,625	9,808 99,925	16,713 145,550	2.9	70,881 50,544	3,616 3,146	1,733	33.2 33.3	741 774	32.9 38.0	10,961 10,514	16.4	164.7
Great	New York, Chic. & St. L 1956	49,782 6,126	102,849 21,186	152,631 27,312	3.8 4.5	49,665 50,229	3,009 3,196	1,365 1,481	31.9 33.0	1,334	38.0 60.9	10,845 16,577	16.8 16.1	147.4
3	Pitts. & Lake Erie	6,184 2,299	20,052 9,786	26,236 12,085	5.9 3.7	51,383 60,469	$3,057 \\ 3,991$	$\frac{1,416}{2,518}$	31.7 53.3	1,365 429	63.2	16,170 23,933	17.2 15.2	147.0 165.0
	1955 Wabash1956	2,419 8,641	9,264 11,231	11,683 19,872	2.3 4.7	57,513 65,365	3,527 3,022	2,207 1,228	52.3 26.9	388 1,131	10.5 63.0	21,418 9,340	16.5 21.7	171.6 174.1
	Baltimore & Ohio1956	8,687 44,584	10,869 50,489	19,556 95,073	5.9	62,033 51,252	2,997 3,368	1,184	25.4 40.3	1,172 918	68.4 35.5	9,604 15,217	20.8 15.5	200.7 120.1
g g	1955 Bessemer & Lake Erie1956	39,730 3,783	43,803	83,533 5,381	9.2	49,849 107,747	3,228 6,666	1,606 4,220	38.5 76.5	1,012 1,818	40.1	14,313 45,938	15.7 16.7	128.2 170.5
Region	1955	2,684 1,867	1,385	4,069 12,528	13.6	103,229 43,224	6,673 3,202	4,341 1,707	78.3 41.1	2,078 540	44.2 20.0	41,123 11,534	16.5 14.1	159.0 97.3
	Central RR Co. of New Jersey .1956	2,276 2,145	10,661	12,996	8.0	39,634	2,960	1,568 1,725	38.4 37.2	475 1,116	18.0 45.1	10,084	14.0	93.2 146.0
Eastern	Chicago & Eastern Ill1956	2,703	4,013 3,447	6,158 6,150 22,080	8.9 5.2	54,678 48,093	3,421 3,028	1,484	33,9	977 240	41.7	6,760 19,011	16.0	148.7 103.1
	Elgin, Joliet & Eastern1956	5,856 6,490	9,872	16,362	3.8 5.0	20,209 20,718	2,764 2,664	1,507	45.3 38.4	262 845	10.0 34.0	17,370 16,610	8.2 16.5	97.9 110.4
Central	Pennsylvania System1956	104,735 95,973	90,163 99,444	194,898 195,417	6.6 8.7	51,903 53,657	3,243 3,205	1,619 1,562	36.3 34.4	808	34.2	16,012	17.3 16.0	102.0
ల	Reading	9,749 10,342	23,170 21,819	32,919 32,161	3.2	50,317 48,828	3,154 3,162	1,744	44.4	631	21.3	16,049 15,347 13,350	15.4 14.8	73.6 163.7
	Western Maryland1956 1955	$\frac{3,608}{4,102}$	4,738 5,078	8,346 9,180	3.9	51,553 49,629	3,569 3,533	2,043 2,019	47.9 47.0	1,394 1,264	45.3 41.1	13,407	14.3	187.5
ė.	Chesapeake & Ohio 1956 1955	48,826 44,734	34,891 38,825	83,717 83,559	2.1	74,986 73,446	4,045 3,999	2,284 2,276	50.8 49.9	1,477	51.5 47.9	23,880 23,228	18.7 18.5	92.2 107.9
Poo	Chesapeake & Ohio 1956 1955 Norfolk & Western 1956 1955 Atlantic Coast Line 1956	32,099 29,671	10,839 10,185	42,938 39,856	1.0	82,240 78,911	4,947 4,743	2,757 2,627	52.9 51.5	1,651 1,609	53.0 52.9	32,859 30,780	17.1	137.3 123.7
	Atlantic Coast Line1956	17,193	18,276	35,469	4.8	44,821	2,358	1,081	34.9 34.2	797 824	38.4 39.7	5,335 5,367	19.1 18.5	171.8 118.9
	Central of Georgia1955	16,984 2,221	17,415 7,292	34,399 9,513	2.6	43,670 48,974	2,367 2,861	1,109	35.0	1,010	43.0	5,608 5,379	17.2 16.5	95.5 91.1
non	Gulf, Mobile & Ohio	2,427 4,559	7,492 11,762	9,919 16,321	6.3	48,677 73,528	2,963 4,018	1,447	33.9	1,141	48.4	6,712	18.3	111.1
Region	Illinois Central	4,527 $22,026$	12,283 29,957	16,810 51,983	1.6	71,874 51.244	3,906 3,210	1,903 1,540	32.4 35.5	1,095	47.0 55.5	9,780	16.2	113,3
	Louisville & Nashville	22,324 $23,788$	35,220 16,366	57,544 40,154	1.8 3.9	49,813 50,891	3,232 2,922	1,549 1,506	34.6 39.5	1,127	50.1 48.1	9,808	15.6 17.5 16.9	165.3
Southern	Nash., Chatt. & St. Louis 1955	23,208 3,142	17,112 4,373	40,320 7,515	4.5 3.7	47,966 40,044	2,850 2,156	$1,476 \\ 1,012$	38.9 31.9	1,115 760	45.3 35.4	9,366 5,451	18.6	124.1
%	Seaboard Air Line1955	3,212 11,085	3,187 $16,922$	6,399 28,007	5.1	42,597 51,287	2,270 2,891	1,095 1,344	31.4 33.9	961 956	42.7 44.6	6,033 6,568	18.8	125.5 163.2
	Southern	11,283	15,882 25,231	27,165 39,929	$\frac{2.7}{3.7}$	53,528 54,119	2,956 3,225	1,392 1,513	33.6 30.9	975 1,135	44.4 53.9	6,636 7,172	18.4	162.2 163.2
	Chicago & North Western 1955	14,281	27,724 33,294	42,005 47,515	3.4	54,119	3,195 3,161	1,499	29.9 30.5	1,096	52.1 33.4	7,310 4,232	17.0 16.7	121.0 168.0
-	Chicago Great Western	15,996 1,547	33,267 4,854	49,263 6,401	4.9	53,731 78,452	3,109 4,265	1,380 2,040	30.0 32.1	754 1,449	37.7 63.3	4,692 6,421	17.6 18.4	150,6 148.3
Region	Chic., Milw., St. P. & Pac 1956	1,326 25,492	4,413 34,340	5,739 59,832	3.5 6.0	77,850 58,030	4,168 3,137	1,940	30.8 30.2	1,532	70.5 39.1	6,155 4,470	18.7 18.5	144.8 124.8
	Chic., St. P., Minn. & Omaha . 1955	25,437 1,179	36,232 8,520	61,669 9,699	5.3	58,384 37,208	3,114 2,418	1,424	30.5	836 570	40.4 25.5	4,975 3,540	18.8 15.6	118.0 140.3
Northwestern	Duluth, Missabe & Iron Range, 1956	1,226 13,737	9,641 1,146	10,867 14,883	2.6	35,519 88,061	2,501 5,346	1,141 3,210	30.6 64.9	585 1,130	26.3 34.3	3,798 29,266	14.5 17.4	84.9 92.6
We	1955 Great Northern1956	14,092 20,314	906	14,998 42,316	2.2	83,317 60,646	5,238 3,325	3,168 1,648	65.3 36.2	1,034 1,515	31.2 62.7	26,831 8,276	16.9 18.5	85.5 142.3
ort	1955 Minneap., St. P. & S. Ste. M 1956	19,461 5,587	22,993 10,102	42,454 15,689	2.0	56,591 51,954	3,136 2,562	1,563 1,227	36.6 32.3	1,483 1,055	60.5 47.3	7,983 4,066	18.3 20.3	129.3 172.2
2	1955 Northern Pacific1956	6,215 16,003	9,152 17,454	15,367 33,457	5.4	50,919 55,362	2,445 2,906	1,194 1,341	32.9 30.7	1,020 1,076	45.2 50.1	3,926 5,721	21.1	165.9
	1955	16,548	18,264	34,812	4.5	56,138	2,961	1,389 1,208	31.8 25.3	1,152	51.7 67.6	6,374 7,538	19.0 22.7	94.8 140,7
egion	Atch., Top. & S. Fe (incl. 1956 G. C. & S. F. and P. & S. F.) 1955	50,148 50,168	40,047 34,117	84,285	3.3	71,645 70,791	3,169 3,120	1,195	25.1	1,184	70,7	7,647 6,021	22.8 20.4	150.6 182.5
Regi	Chic., Burl. & Quincy1956	18,788 19,538	26,578 24,727	45,366 44,265	3.4	61,138 58,634	2,997 2,873	1,299 1,252 1,231	28.5 27.6	1,175	60.7 59.2	5,990 5,155	20.4 20.1	166.5 189.2
	Chic., Rock I. & Pac	10,059 $10,287$	23,421 22,595	$33,480 \\ 32,882$	4.9	56,401 56,816	2,814 2,902	1,285	30.5 30.5	1,102	53.9 51.1	4,540 8,613	19.6 17.9	168.3 152.6
Central Western	Denver & R. G. Wn	6,739 7,531	8,615 8,265	15,354 15,796	3.0	59,063 59,181	$3,320 \\ 3,304$	1,584 1,556	31.5	1,183	54.0	8,833 12,004	17.9	149.0 111.7
N TR	Southern Pacific	27,899 27,576 27,898	50,887 $50,726$	78,786 78,302	1.7	60,592 58,046	3,214 3,087	1,291 1,256 1,274	27.6 27.4	1,239 1,280	70.6 71.3	12,182	19.0	124.3
antra	Union Pacific	26,690	37,377 $38,928$	65,275 65,618	1.7	76,457 74,791	3,101 2,945	1,198	27.0 26.0	1,652 1,681	91.9 95.0	10,936 11,189	24.9 25.6	164.3
3	Western Pacific	2,074 1,946	5,583 4,836	7,657 6,782	1.5	75,477 79,522	3,047 3,171	1,374 1,441	28.2 28.7	1,537 2,227	74.1 106.0	10,146 12,296	24.9 25.3	209,4 231,8
	Kansas City Southern 1956	1,641 864	5,547 6,575	7,188 7,439	3.5	85,513 86,578	4,185 4,063	1,903 1,861	$\frac{32.3}{32.1}$	1,188 1,295	54.1 58.2	9,823 10,793	20.5 21.4	211.7
	Louisiana & Arkansas1956 1955	1,612 1,173	3,592 3,613	5,204 4,786	5.7 3.6	70,076 65,429	3,598 3,349	1,679	36.7 35.9	1,068	46.1 48.8	7,233 7,640	19.5 19.6	207.7 271.2
Region	MoKansTexas Lines1956 1955	3,317 3,273	7,627 8,124	10,944	5.6	62,023 57,690	2,902 2,896	1,239	28.7 27.8	1,267 1,241	70.9 65.4	4,438 4,328	21.4 20.0	144.1 140.5
	Missouri Pacific	15,887 20,428	31,371 31,268	11,397 47,258 51,696	4.6	66,669	3,159 3,151	1,446	32.2 31.4	1,233 1,214	58.8 57.6	6,207 6,380	20.3 21.3	$\frac{119.7}{113.7}$
tern	Texas & Pacific	2,768 2,339	6.799	9,567 9,905	3.0	74,400 72,168	3,701 3,446	1,502 1,369	29.0 27.7	1,454	77.1 81.7	7,490 7,952	20.2 21.0	163.8 188.1
outhwestern	St. Louis-Sen Francisco1955	10,377	7,566 14,240 13,031	24,617 22,225	2.1 3.1 3.1	53,238 55,284	2,686 2,871	1,222 1,284	31.0 29.6	1,126 1,136	55.1 57.3	6,000 5,654	19.9 19.3	223,8 184,1
outh	St. Louis Southw. Lines	1,808	5.179	6,987 7,437	1.2	57,084 56,730	2,955 2,948	1,321 1,318	28.0 26.8	1,996 1,863	98.8	9,185 9,000	19.3 19.3	209.0 182.5
92	Texas & New Orleans	1,657 4,936	5,780 17,340 16,126	22,276 21,072	1.4	58,072 56,491	2,881 2,740	1,282	30.8 30.5	1,299	65.4 65.1	6,659 6,775	20.3 20.7	154.9 176.9
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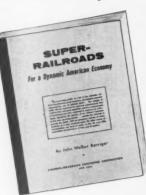
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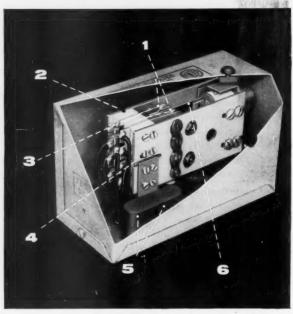
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A Program for Industry Action

We have changed the caption on this page from "Forum" to "Action"—with the idea that the general principles which should govern successful railroad industry policy are, by now, pretty well understood and agreed to. The time has come, then, when more attention needs to be given to translating these beneficial principles into terms of concrete action—and it is to the examination of such specific action that this page will be mainly devoted hereafter.

Outlined below is this paper's idea of the major lines of action (not necessarily in the order of their relative importance) that need to be pursued—

Challenge Competition. Employ all legitimate and effective sales and service methods to attract to the railroads all traffic which they can move more satisfactorily or economically than other agencies of transportation—but not traffic which the railroads can handle only at a loss, or which other agencies can serve better and at less expense. Strive for coordination of the several types of transport (e.g., through "piggyback," and joint ownership of several types of transport by a single company), to encourage the channeling of each part of the total transportation job to that method which can do it best.

Maintain a High Level of Service. On the principle that "a job worth doing is worth doing well," seek to attain and maintain at all times and in all places standards of railroad service which shall never be less than should reasonably be expected of an efficient business enterprise, competently manned and adequately equipped.

Increase Internal Strength. Take full account of the unique character of the railroad business in its need for inter-company collaboration, since all railroads operate as a single system—and develop techniques of cooperation commensurate with the need for them.

Apply all effective methods (selection, training, compensation and other incentives) to give the railroads the maximum possible efficiency in management and personnel—alike at the top level, in specialized departments, and down through the ranks.

Make every effort to promote closer understanding with members of organized labor—to the end that their cooperation will be forthcoming, both in forwarding joint and legitimate legislative objectives; and in modifying working rules which militate to the disadvantage of both railroad employees and owners.

Get Earnings on a Higher Level. Take all steps necessary, internal and external, to make railroads as steadily profitable as (for example) the electric utilities—thereby attracting the flow of new investment needed to keep railroad service at the peak of efficiency and modernity.

Systematize cost finding (of railroads and rival agencies) as a means of maximizing earnings—and as a guide to rate-making for effective competition with other means of transport

Study markets, merchandising and economic trends to permit best possible adaptation of railroad service and rates to potential traffic demand—both as it is today, and as it will be in future.

Rationalize the passenger business (including head-end traffic)—by strengthening the profitable and shrinking the uneconomic services—to the end of putting the business in the black, allowing due credit for the intangible values of attractive passenger service.

Improve Tools and Methods. Provide economic incentives wherever needed to assure a supply of freight cars, adequate in design and quantity at all times, to meet the needs of railroad customers.

Recognizing that the economic strength of the railroads lies in mass production, maximize mechanization and "automation" wherever economically justifiable, and minimize costly "retail" processes—indemnifying as far as possible loyal and veteran employees whose livelihood may be jeopardized by this process of adjustment. Study intensively the possible benefits of further mergers and joint facilities.

Discover by research and apply the best equipment, methods and systems available for every class of railroad work, to the extent that economic principles and financial resources will justify and permit—including research to develop applications to railroad work of devices and scientific discoveries now applied in other industries. Maintain and improve the railroads' enviable record for safety.

Have an open mind in relations with manufacturers of railroad products, giving them ample opportunity to explain and demonstrate the merits of their research, products and services for improving railroad performance.

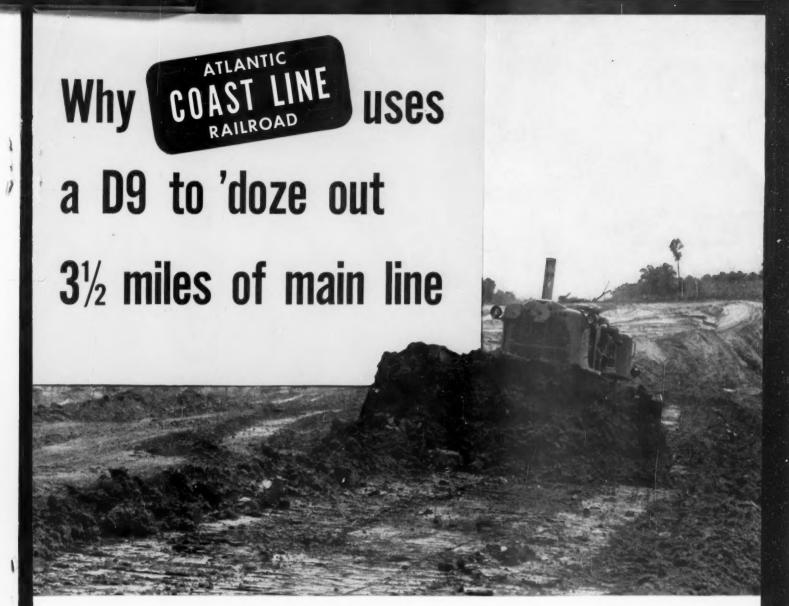
Work for a Friendlier Environment. Intensify cooperative contact and understanding with railroad patrons, regulators, legislators, government officials, and opinion leaders generally—to the end of securing their cooperation in all enterprises wherein the railroads' interest coincides with the public interest, and in ending all kinds of governmental discrimination against the railroad industry.

Encourage study and research into transportation problems by academic scholars, research foundations, colleges and universities, and national and regional planning groups—to the end that transportation problems may be more widely understood, promoting the economic division of transportation functions among the several agencies, and forestalling the ominous trend toward socialization now prevailing in a large and growing part of the transportation industry.

Develop an industry program of joint public relations and publicity, designed to secure the understanding cooperation of opinion leaders and the public in developing rational and equitable governmental policies toward all segments of the transportation industry.

Many things the railroads need to do, of course, cannot be done under existing government policy—but the first step in getting policy changes is for the railroads to decide what needs doing.

If there are errors either of inclusion or omission in this outline, will our readers please point them out to us?



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